ENGINEERING REPORT

FOR

COMPARISON OF COSTS

OF

ALTERNATE LINES

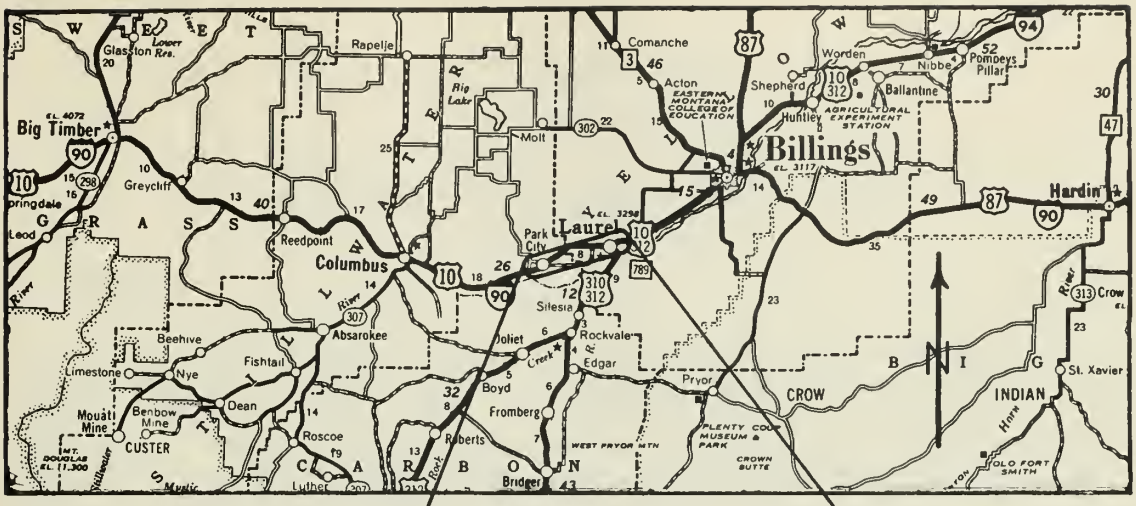
ON

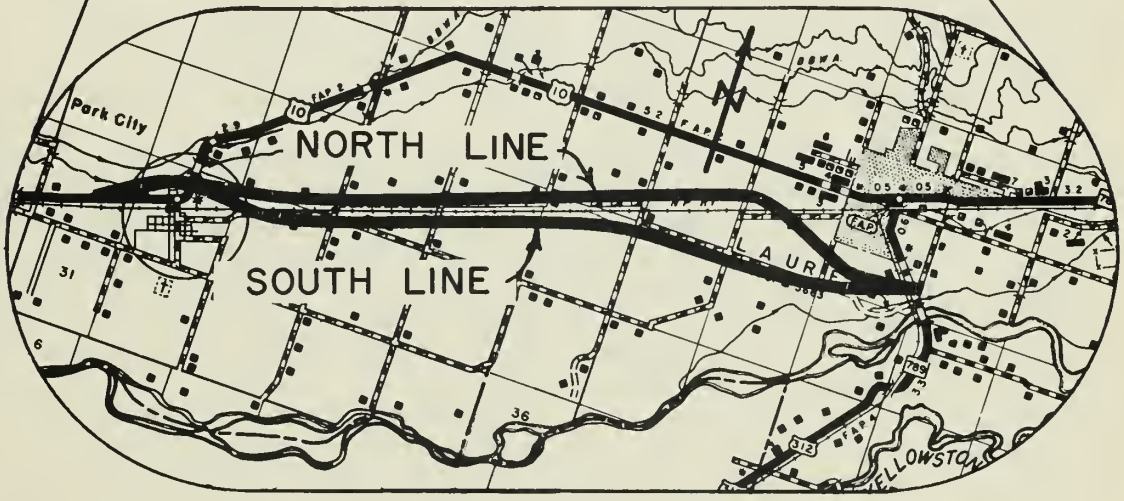
INTERSTATE ROUTE I-90

PARK CITY - LAUREL

PREPARED BY
MONTANA STATE HIGHWAY COMMISSION
INTERSTATE DIVISION

JUNE 13, 1962





ALTERNATE LOCATIONS STUDIED

ENGINEERING REPORT
for
COMPARISON OF COSTS
of
ALTERNATE LINES OF INTERSTATE ROUTE I 90
PARK CITY TO LAUREL

FOREWORD

This report was prepared to compare the relative merits of two alternate locations for Interstate Route 90 between Park City and Laurel. The principal purpose here is to illustrate in monetary terms the most pertinent considerations involved. These considerations include the cost of constructing alternate locations, the cost of maintaining each location, and the cost which will be incurred by the highway user in traveling on each location.

Since the cheapest route to construct and maintain does not always provide the best service to the highway user, it is also necessary to consider vehicular operating costs in determining the route which is of the greatest overall benefit.

Federal and State funds for the support of highways are obtained almost entirely from highway-user taxes; consequently, the most favorable highway location, from the standpoint of the people who are paying for it, would be the route that has the lowest overall cost when all construction, maintenance and vehicular operating costs are taken into consideration.

THE INTERSTATE SYSTEM

The Interstate System was originally established under the Federal Aid Highway Act of 1944. It was defined as the National System of Interstate Highways. This original system was included as part of the Federal Aid Primary System.

However, the nation-wide interest in the Interstate System made it evident that it required special attention, both in financing and in expediting the construction to adequate standards to serve the anticipated great increase in traffic volumes. Action to accomplish this objective was contained in legislation as part of the Federal Aid Highway Act of 1956. Under this Act, the name of the system was changed to the National System of Interstate and Defense Highways. It was stipulated that the Interstate System should be completed as nearly as practicable over a thirteen-year period. The national interest in the system was recognized by means of greatly increased authorizations of Federal Aid to assist in construction of the system and also in liberalization of the proportion of Federal money as compared to State money. Much higher standards were prescribed for the construction of this system and included the control of access to the highways so that traffic could move safely and expeditiously.

There are three Interstate Routes in Montana. Interstate Route 15 begins at Monida Pass at the Montana-Idaho border and generally follows US 91 northerly through Dillon, Butte, Helena, Great Falls, Conrad and to the Montana-Canada border. Interstate Route 90 begins at Lookout Pass on the Montana-Idaho border and generally follows US 10 easterly through Missoula, Butte, Bozeman, and Billings, then southerly along US 87 from Billings through Hardin to the Montana-Wyoming border. Interstate Route 94 begins at Billings and generally follows US 10 easterly through Miles City, Glendive, Wibaux and to the Montana-North Dakota border.

DESCRIPTION OF LOCATIONS

In general, this report deals with the alignment of Interstate Route 90 between Park City and Laurel. The two feasible locations considered in this report are designated as the North Line and the South Line.

The North Line begins at the west common point on the north side of Park City and extends northeasterly paralleling the Northern Pacific Railway tracks to a crossing of the tracks one-half mile west of Laurel. From this crossing, it extends south of Laurel's residential area to the east common point.

From the west common point, the South Line extends easterly to a crossing of the Northern Pacific tracks one-half mile east of Park City. From this crossing, it extends northeasterly, parallel to the tracks to a point two miles west of Laurel. From this point it parallels a county road for one mile and then northeasterly to the east common point.

Both lines connect to present US 10 west of Park City and provide access to the town at an interchange north of the townsite. The east end of each line connects to the Laurel Interchange near the Farmers Union Refinery.

Topographic maps were prepared from aerial photography with a horizontal scale of 1" = 100' and a contour interval of 2 feet. The alignments shown in this report are the result of careful investigation and consideration of various alternates. On the basis of preliminary cost estimates, the least feasible lines were eliminated. Thus, the alignments shown in this report represent the best locations studied.

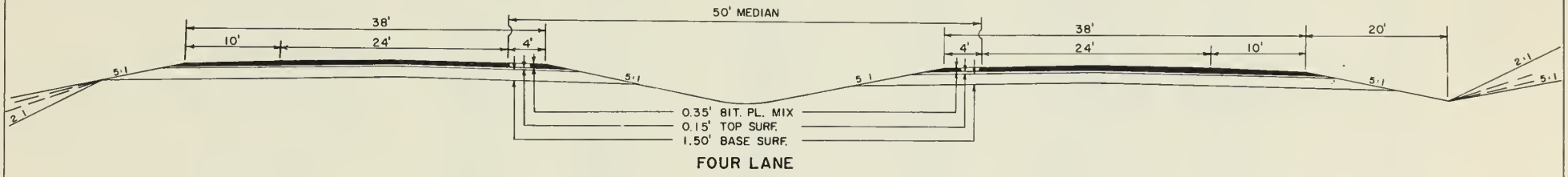
DESIGN STANDARDS

Design criteria are based upon those acceptable for the Interstate System throughout the nation. This is outlined in "Geometric Design Standards for the National System of Interstate and Defense Highways", adopted by the American Association of State Highway Officials and the United States Department of Commerce, Bureau of Public Roads.

In accordance with this criteria, the following design features were established:

Facility	North Line	South Line
Design Speed	70 mph	70 mph
Number of Lanes	4	4
Width of Travel Lanes	12 ft.	12 ft.
Width of Outside Shoulder	10 ft.	10 ft.
Width of Median	50 ft.	50 ft.
Maximum Curvature	3° 30'	2° 30'
Maximum Gradient	2.3%	3.0%

TYPICAL SECTION



FOUR LANE

COST ESTIMATES

UTILITY ADJUSTMENTS:

The cost of moving various utilities was based upon unit prices for moving similar facilities in Montana.

GRADING:

From aerial maps, cross-sections were taken at a maximum interval of 100 feet. This data, along with profile grades and typical roadway design sections, was entered into an IBM 1620 electronic computer to obtain earthwork quantities.

The unit price for excavation and borrow in this area has been approximately $0.35 per cubic yard. To this was added $0.10 for watering and rolling. On the North Line $0.24 was added for overhaul, making a unit cost of $0.69 per cubic yard. On the South Line $0.32 was added for overhaul and $0.01 was added for maintaining a railroad crossing, making a unit cost of $0.78 per cubic yard.

DRAINAGE:

The cost of minor drainage structures was estimated on a cost-per-mile basis. Estimates of major structures were based on designs equal to facilities now in place.

BASE AND SURFACING:

Base and surfacing costs were estimated on the basis of similar design sections. The unit cost on the South Line was adjusted for hauling aggregate across the railroad tracks.

INTERCHANGES:

The cost of interchanges included the structure, grading and draining ramps, guardrail, curbs, signing, and traffic control.

STRUCTURES:

The cost of road separations and interchange structures was based on average prices per square-foot of deck area. The cost estimates of the railroad separations were made by the Bridge Division.

MISCELLANEOUS:

Fencing costs were included for both lines.

Guardrail was included on all fills over 10 feet.

Traffic control devices were included on a cost-per-mile basis.

RIGHT OF WAY:

Right-of-way costs were based on a field appraisal by the Right-of-Way Division and included the cost of property taken and severance damages.

ENGINEERING AND CONTINGENCIES:

Fifteen percent of the construction cost was added for engineering and contingencies. Engineering costs include surveys, mapping, preparation of plans, and construction supervision. Contingencies are items uncertain as to occurrence and minor items not covered in this estimate.

COST OF CONSTRUCTION
North Line

	UNIT	COST PER UNIT	QUANTITY	COST	TOTAL
UTILITY ADJUSTMENTS	L u m p	S u m			$ 18,428
GRADE & DRAIN					
GRADING	Cu.Yd.	$ 0.69	1,529,855	$1,055,600	
MINOR DRAINAGE	L u m p	S u m		105,063	
MAJOR DRAINAGE	L u m p	S u m		23,520	
CHANNEL CHANGES	L u m p	S u m		10,578	
FRONTAGE ROADS	L u m p	S u m		38,657	
TOTAL					$1,233,418
BASE & SURFACING					
BASE COURSE	Mile	$42,381.	7.459	$ 316,120	
PLANT MIX	Mile	56,716.	7.459	423,045	
FRONTAGE ROADS	L u m p	S u m		48,733	
TOTAL					$ 787,898
RAILROAD SEPARATION	L u m p	S u m			$ 208,000
HIGHWAY SEPARATIONS	Sq.Ft.	$ 10.20	25,193.0		$ 256,968
INTERCHANGE					
STRUCTURE	Sq.Ft.	$ 10.20	11,785.2	$ 120,209	
GRADING RAMPS	Cu.Yd.	0.69	122,000.	84,180	
BASE & SURFACING RAMPS	L u m p	S u m		39,239	
CURBS & RAILS	L u m p	S u m		14,852	
TRAFFIC CONTROL	L u m p	S u m		15,500	
DRAINAGE	L u m p	S u m		1,220	
					$ 275,200
MISCELLANEOUS					
GUARDRAIL	Feet	$ 2.25	16,100.	$ 36,225	
FENCING	Mile	5,760.	7.459	42,964	
TRAFFIC CONTROL	Mile	400.	7.459	2,984	
TOTAL					$ 82,173
CONSTRUCTION SUBTOTAL					$2,862,085
ENGINEERING & CONTINGENCIES	15%				$ 429,313
RIGHT OF WAY	L u m p	S u m			$ 112,000
TOTAL					$3,403,398

COST OF CONSTRUCTION
South Line

	UNIT	COST PER UNIT	QUANTITY	COST	TOTAL
UTILITY ADJUSTMENTS	L u m p	S u m			$ 15,778
GRADE & DRAIN					
GRADING	Cu.Yd.	$ 0.78	1,576,116.	$1,229,370	
MINOR DRAINAGE	L u m p	S u m		135,751	
CHANNEL CHANGES	L u m p	S u m		17,887	
FRONTAGE ROADS	L u m p	S u m		10,722	
TOTAL					$1,393,730
BASE & SURFACING					
BASE COURSE	Mile	$42,671.	7.399	$ 315,723	
PLANT MIX	Mile	57,006.	7.399	421,787	
FRONTAGE ROADS	L u m p	S u m		13,228	
TOTAL					$ 750,738
RAILROAD SEPARATION	L u m p	S u m			$ 295,000
HIGHWAY SEPARATIONS	Sq.Ft.	$ 10.20	25,363.8		$ 258,710
INTERCHANGE					
STRUCTURE	Sq.Ft.	$ 10.20	11,785.2	$ 120,209	
GRADING RAMPS	Cu.Yds.	0.69	122,000.	84,180	
BASE & SURFACING RAMPS	L u m p	S u m		39,239	
CURBS & RAILS	L u m p	S u m		14,852	
TRAFFIC CONTROL	L u m p	S u m		15,500	
DRAINAGE	L u m p	S u m		1,220	
TOTAL					$ 275,200
MISCELLANEOUS					
GUARDRAIL	Feet	$ 2.25	12,600.	$ 28,350	
FENCING	Mile	5,760.	7.399	42,618	
TRAFFIC CONTROL	Mile	400.	7.399	2,960	
TOTAL					$ 73,928
CONSTRUCTION SUBTOTAL					$3,063,084
ENGINEERING & CONTINGENCIES	15%				$ 459,463
RIGHT OF WAY	L u m p	S u m			$ 164,000
TOTAL					$3,686,547

The preceding tables illustrate the estimated total construction costs. In comparing costs the time value of money is a consideration. One way to do this is by reducing each to an equivalent uniform annual cost.

Interest exists as a business fact; if you borrow money it is necessary to pay interest; if you have money you can get interest for it. It should make no difference whether money is borrowed from a bank or taxed from the pockets of citizens, the use of money must be paid for and the cost of such use is interest.

The investment opportunities outside the highway field are relevant in setting the interest rate on a highway improvement. Consider the investment opportunity that is foregone by the taxpayer who provides the funds for the highway improvement. For the many taxpayers who have to borrow money for some purpose or another (including the taxpayers, all of whom are highway users, who borrow to finance automobiles) a risk-free investment means borrowing less money or reducing the amount of the outstanding loan. For these taxpayers, a minimum rate of return for an investment would be 4%. This interest rate has been used in computing the annual costs in the following table.

COMPARISON OF TOTAL AND ANNUAL
CONSTRUCTION COSTS

ITEM	LIFE	CAPITAL RECOVERY FACTOR	NORTH LINE		SOUTH LINE	
			TOTAL	ANNUAL	TOTAL	ANNUAL
UTILITY ADJUSTMENTS	40	0.0505	$ 18,428	$ 931	$ 15,778	$ 797
GRADE & DRAIN	40	0.0505	1,233,418	62,288	1,393,730	70,383
BASE & SURFACING	20	0.0736	787,898	57,989	750,738	55,254
RAILROAD SEPARATION	50	0.0465	208,000	9,672	295,000	13,718
HIGHWAY SEPARATIONS	50	0.0465	256,968	11,949	258,710	12,030
INTERCHANGE	30	0.0578	275,200	15,907	275,200	15,907
MISCELLANEOUS	20	0.0736	82,173	6,048	73,928	5,441
CONSTRUCTION SUBTOTAL			2,862,085	164,784	3,063,084	173,530
ENGINEERING & CONTINGENCIES	40	0.0505	429,313	21,680	459,463	23,203
RIGHT OF WAY	50	0.0465	112,000	5,208	164,000	7,626
TOTAL			$3,403,398	$191,672	$3,686,547	$204,359

ROAD USER COSTS:

The cost of vehicular operations on both routes was calculated as prescribed in the 1960 AASHO publication "Informational Report by Committee on Planning and Design Policies on Road User Benefit Analysis for Highway Improvements." The price of gasoline in Montana is higher than the national average, consequently, the unit costs were adjusted from the $0.32 used in this publication to the Montana average of $0.40.

ANNUAL ROAD USER COSTS

LINE	% GRADE CLASSIFICATION	LENGTH IN MILES	TYPE OF OPERATION	RUNNING SPEED MPH	ADJUSTED AVERAGE ADT*	RUC PER VEHICULAR MILE	ANNUAL R.U.C.
NORTH	0 - 3%	7.459	Free	60 mph	5216	$0.0977	$1,387,411
SOUTH	0 - 3%	7.399	Free	60 mph	5216	0.0977	1,376,251

*Average ADT adjusted for truck traffic

MAINTENANCE COST:

The cost of maintaining the Interstate mainline and the frontage roads has been included on a cost-per-mile basis for each location.

ANNUAL MAINTENANCE COSTS

LOCATION	ROADWAY TYPE	LENGTH	COST PER MILE	COST	TOTAL
NORTH	Mainline	7.459	$2,500	$18,648	
	Frontage	3.206	500	1,603	$20,251
SOUTH	Mainline	7.399	2.500	18,498	
	Frontage	1.507	500	754	$19,252

SUMMARY OF COSTS

As explained in the foreword, the final comparison of the alternate locations must take into consideration three different factors; namely, annual construction costs, annual maintenance costs, and annual vehicular operating costs. The following table illustrates the value of these factors for each of the alternate locations.

SUMMARY OF TOTAL ANNUAL COSTS

ITEM	NORTH	SOUTH
CONSTRUCTION	$ 191,672	$ 204,359
ROAD-USER	1,387,411	1,376,251
MAINTENANCE	20,251	19,252
TOTAL	$1,599,334	$1,599,862

ADVANTAGE FAVORING NORTH LINE = $528

This summary shows that the North Line saves the highway user $12,687 annually in construction cost. The South Line shows an annual savings of $999 in maintenance and $11,160 annually in vehicular operating costs. However, the combination of construction, maintenance, and vehicle costs shows an annual savings of $528 for the North Line.

CONCLUSION

On the basis of the considerations covered in this report, it is concluded that the North Line would be the more favorable location for Interstate Route 90 from Park City to Laurel.

LEGEND

EXISTING FEATURES

PAVED ROAD

TRAIL

BRIDGE

STREAM

INTERMITTENT STREAM

IRRIGATION DITCH

DEPRESSION

RAILROAD

RAILROAD OVERPASS

SPOT ELEVATION X 3330

BUILDINGS

UTILITY POLE

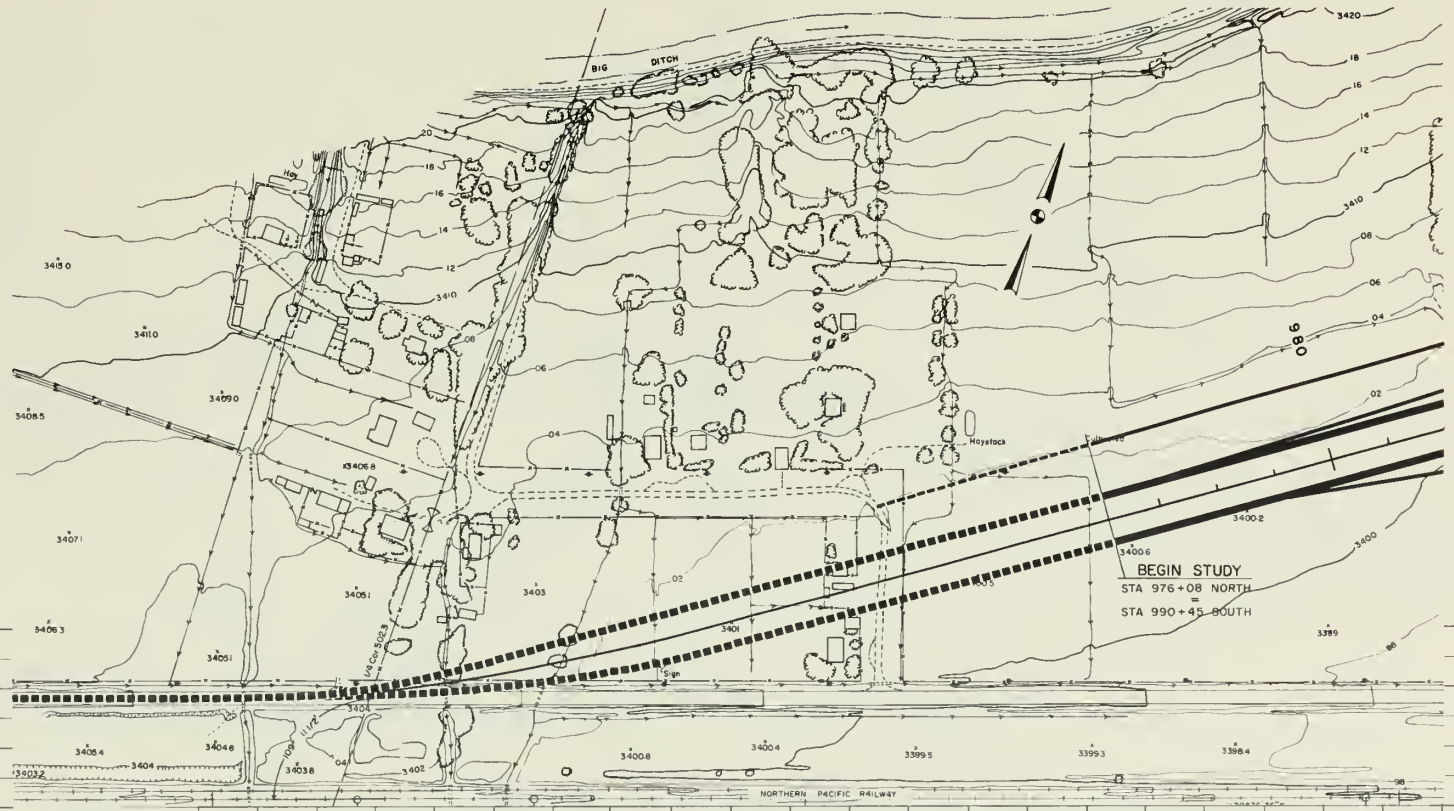
RESERVOIR & DAM

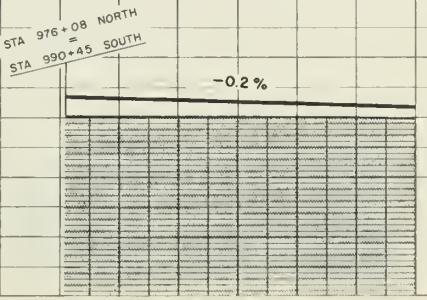
PROPOSED FEATURES

INTERSTATE HIGHWAY

INTERSTATE BRIDGE

CHANNEL CHANGE





INTERSTATE 90 LOCATION STUDY
PARK CITY TO LAUREL
PLAN AND PROFILE
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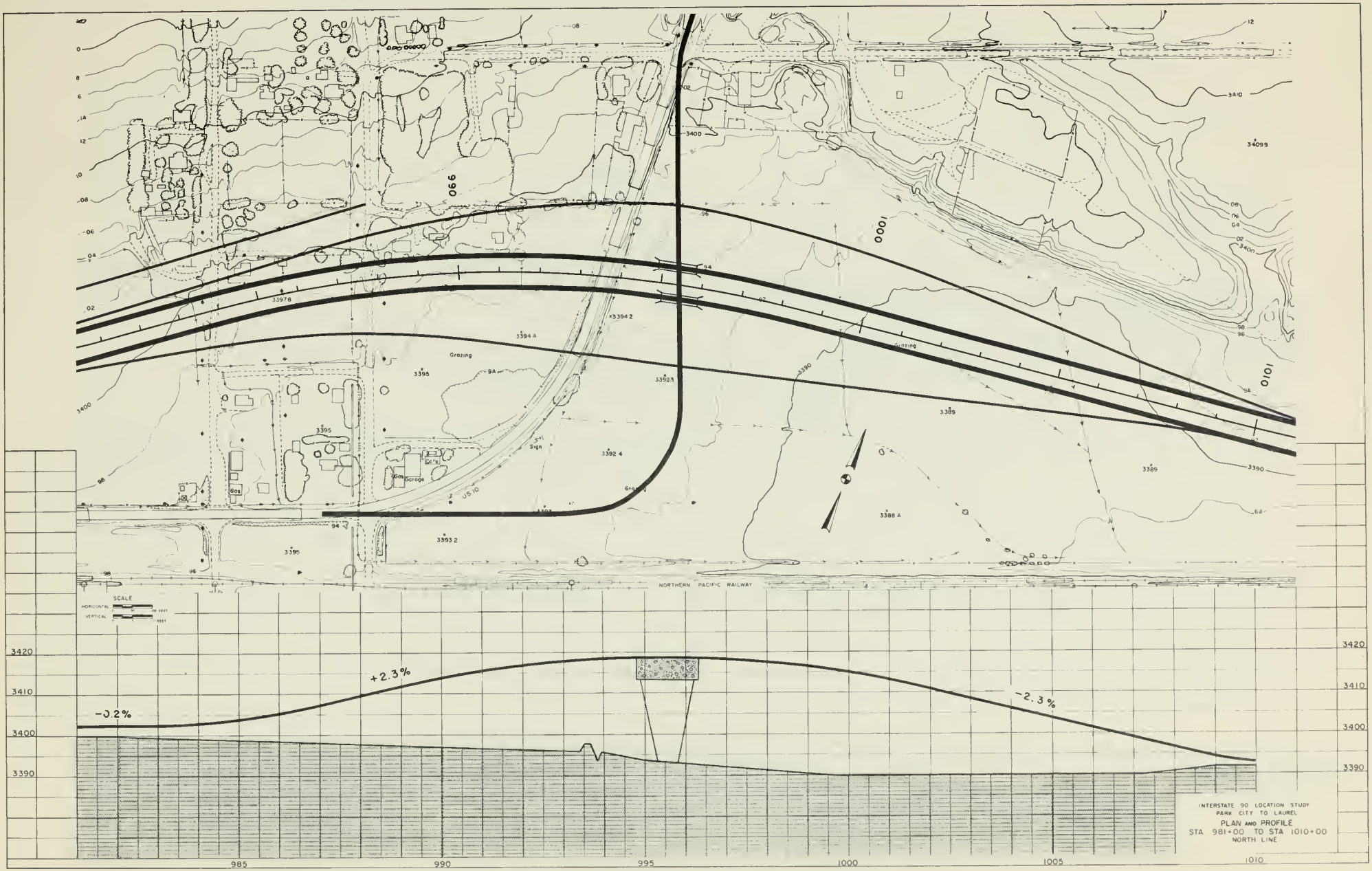
NORTH LINE



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PARK CITY TO LAUREL
PLAN AND PROFILE
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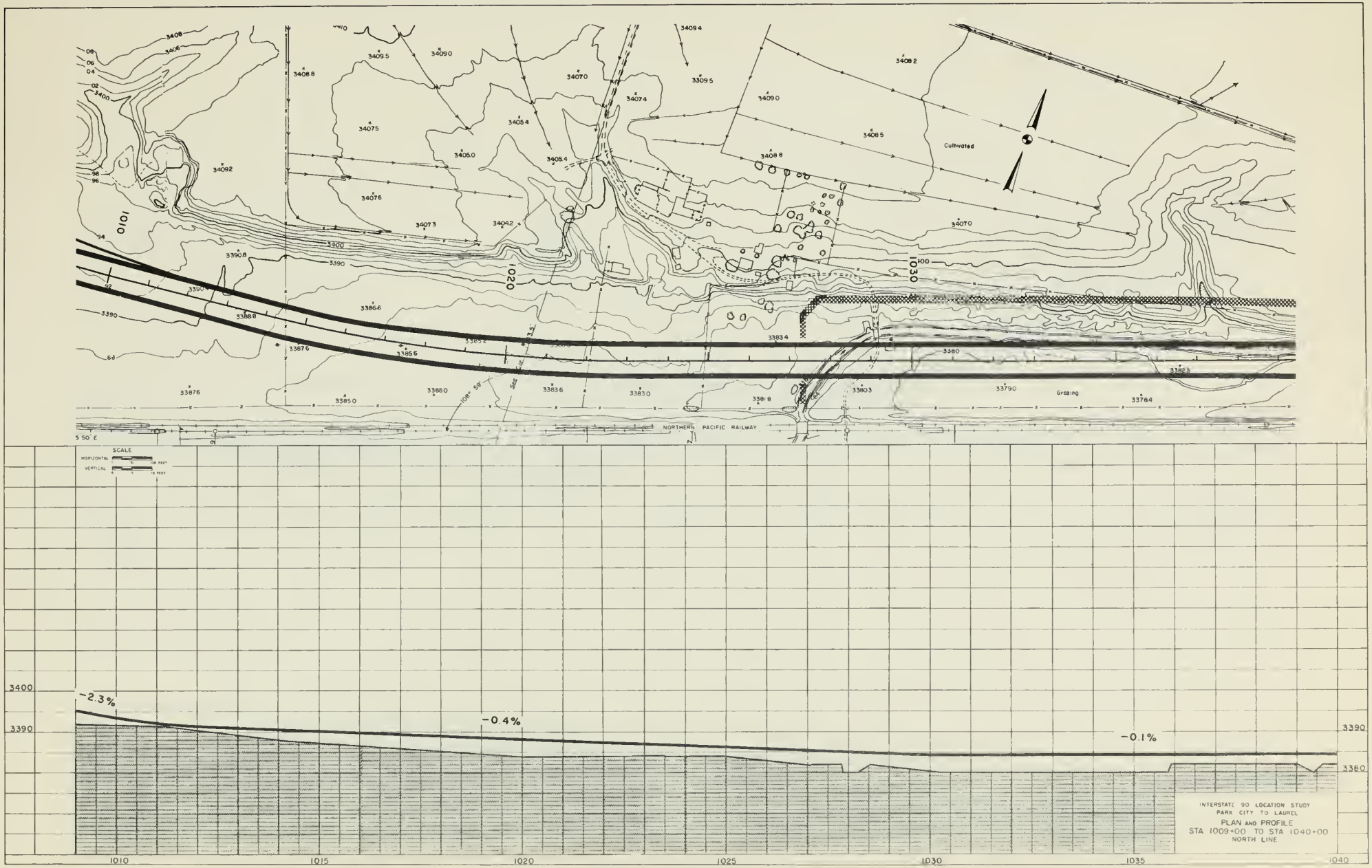
NORTH LINE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VERTICAL
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-0.1%
3400
3390
3380
1010
1015
1020
1025
1030
1035
1040
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PARK CITY TO LAUREL
PLAN AND PROFILE
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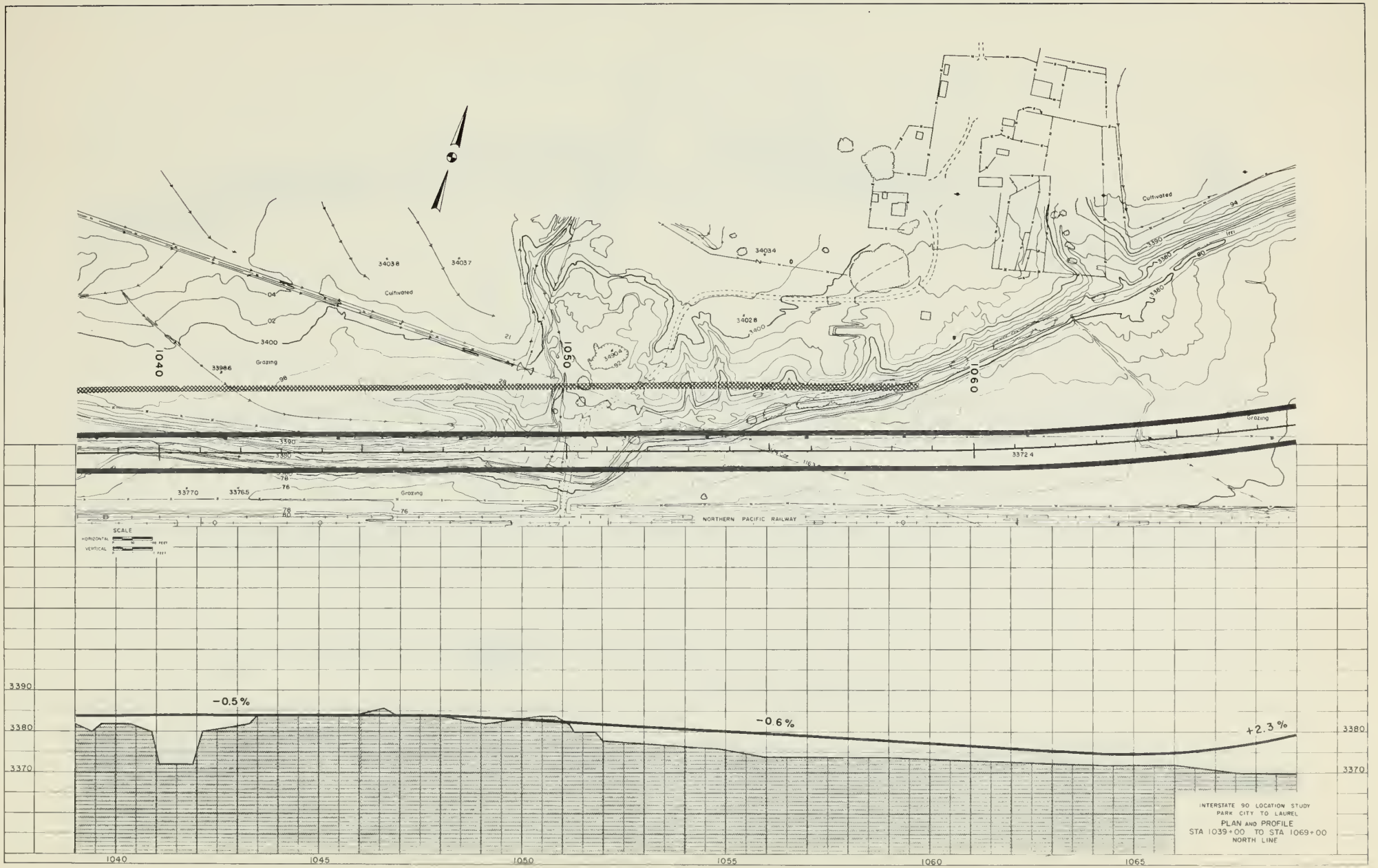
NORTH LINE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VERTICAL
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+2.3 %
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3380
3370
1040
1045
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1060
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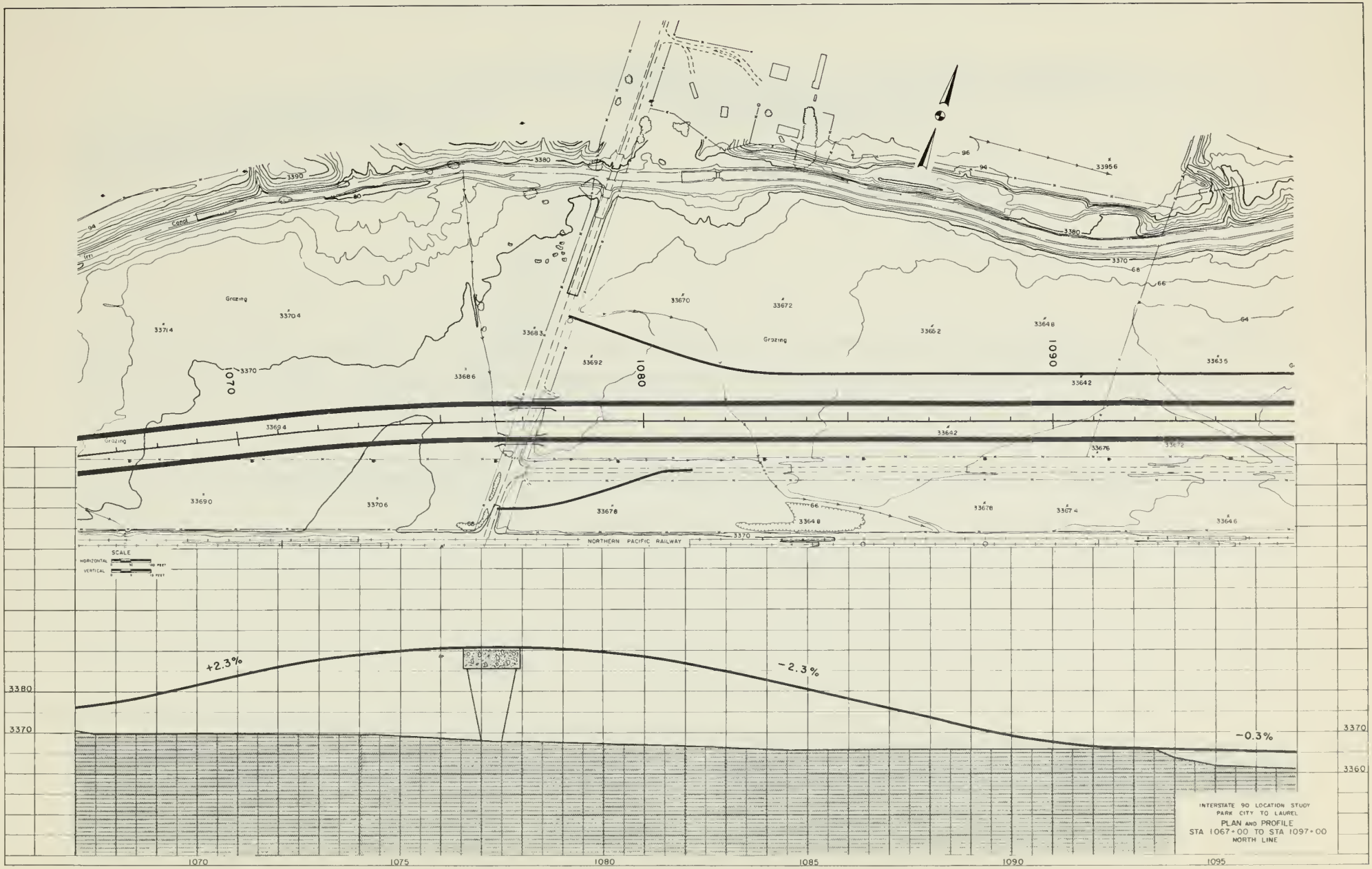
INTERSTATE 90 LOCATION STUDY
PARK CITY TO LAUREL
PLAN AND PROFILE
STA 1039+00 TO STA 1069+00
NORTH LINE



INTERSTATE 90 LOCATION STUDY
PARK CITY TO LAUREL
PLAN AND PROFILE
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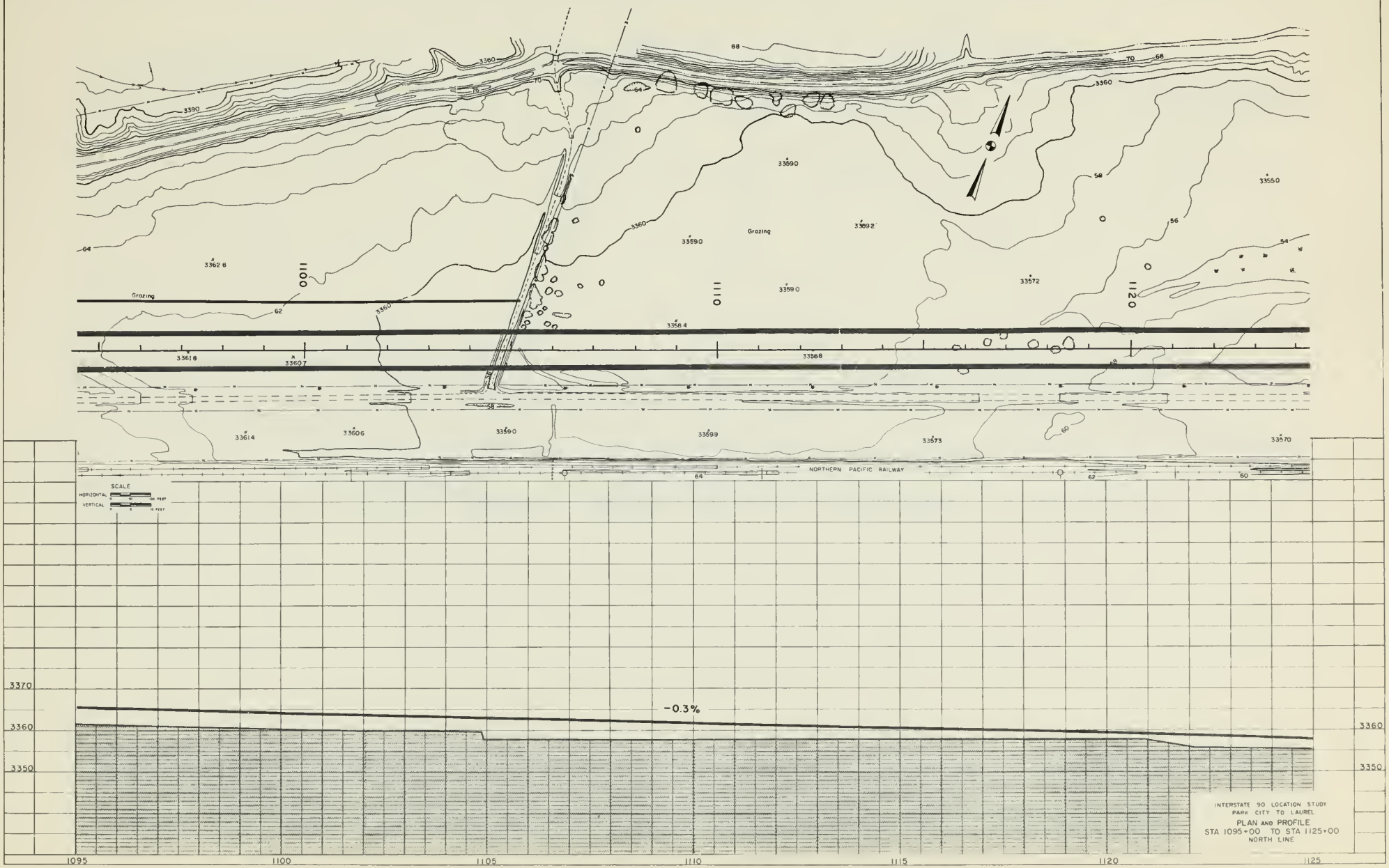
NORTH LINE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VERTICAL
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Grazing
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INTERSTATE 90 LOCATION STUDY
PARK CITY TO LAUREL
PLAN AND PROFILE
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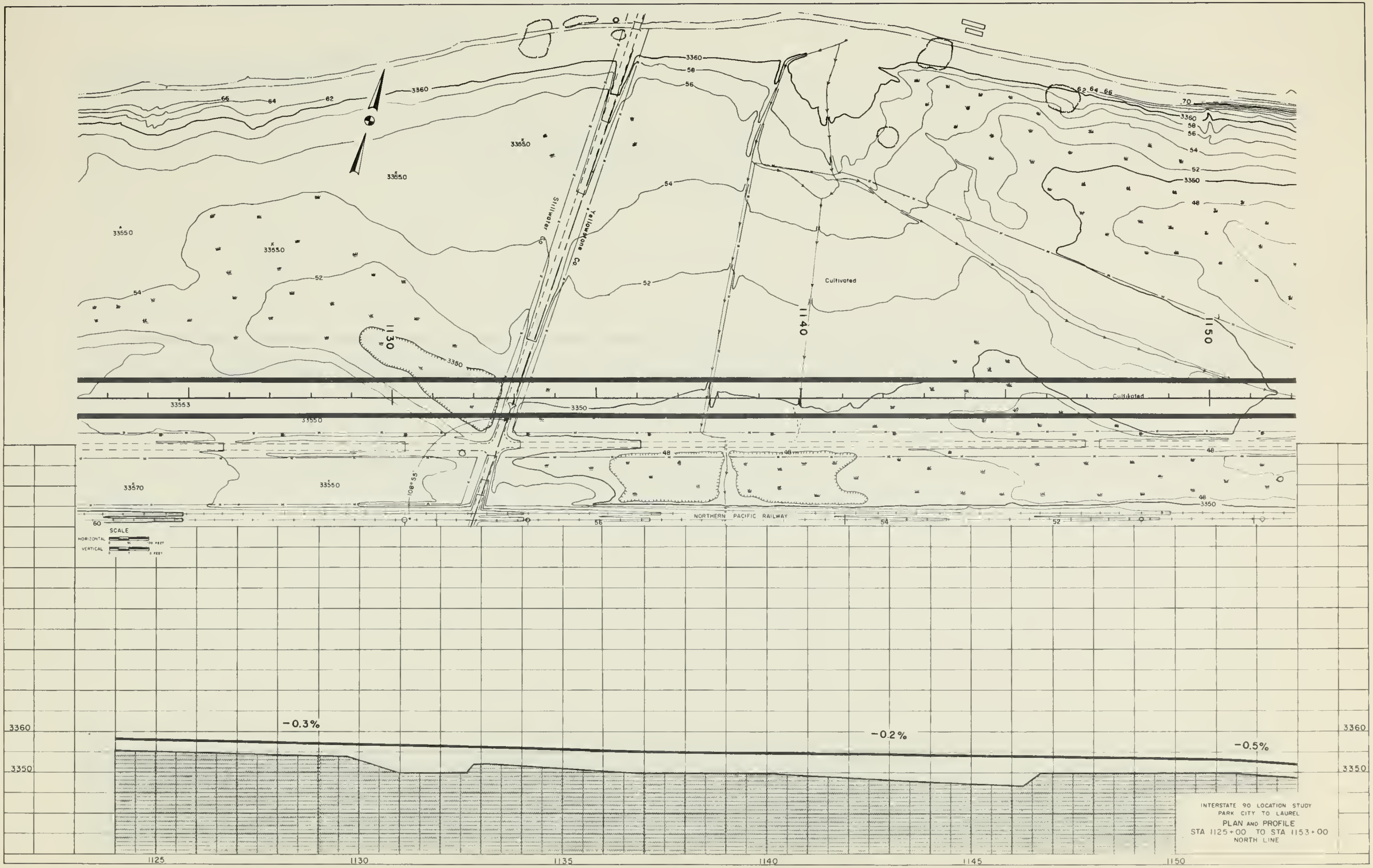
NORTH LINE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Stillwater Co.
Yellowstone Co.
Cultivated
1130
1140
1150
108°55'
NORTHERN PACIFIC RAILWAY
SCALE
HORIZONTAL
VERTICAL
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-0.2%
-0.5%
1125
1130
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INTERSTATE 90 LOCATION STUDY
PARK CITY TO LAUREL
PLAN AND PROFILE
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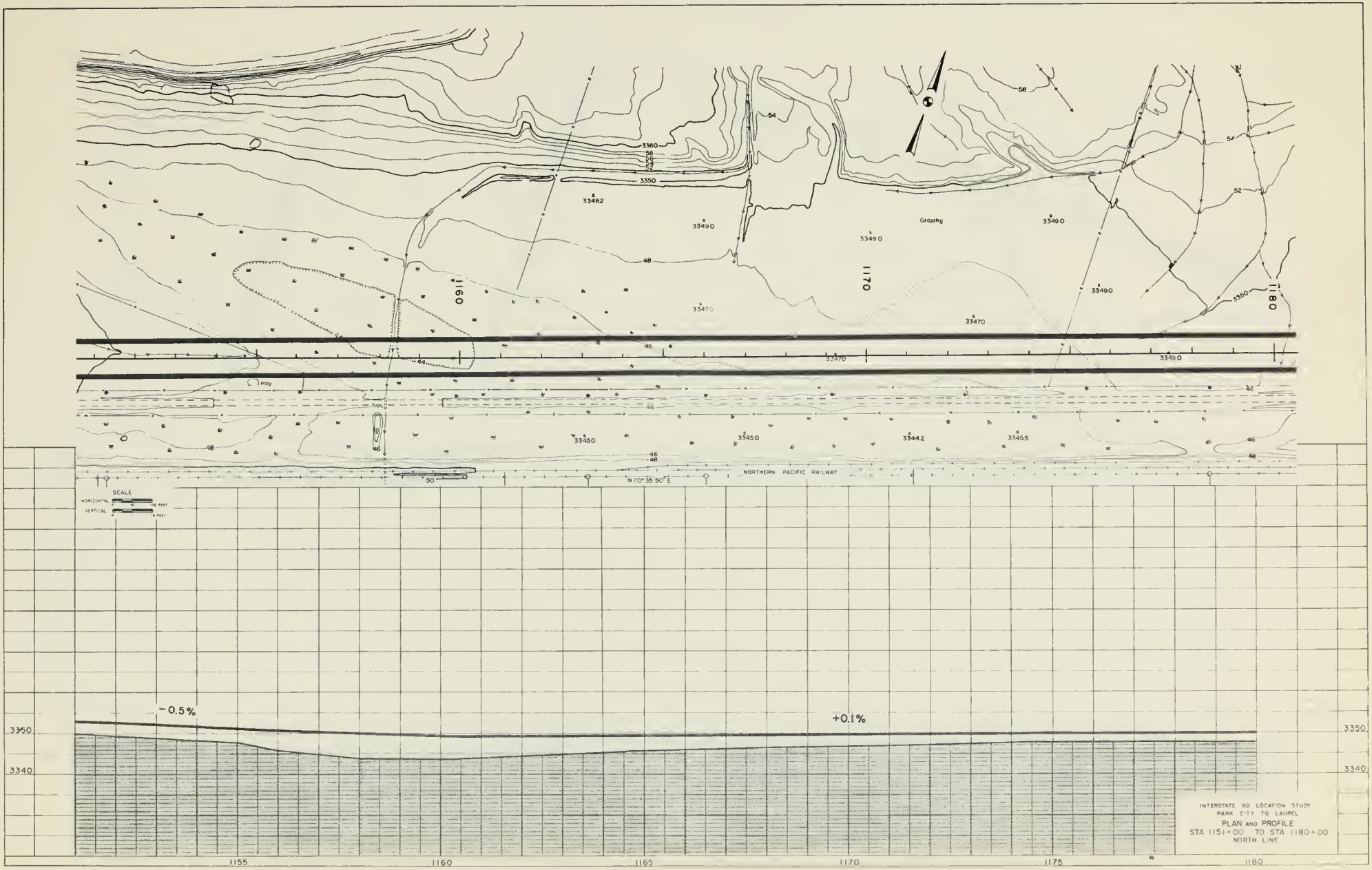
NORTH LINE



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PARK CITY TO LAUREL
PLAN AND PROFILE
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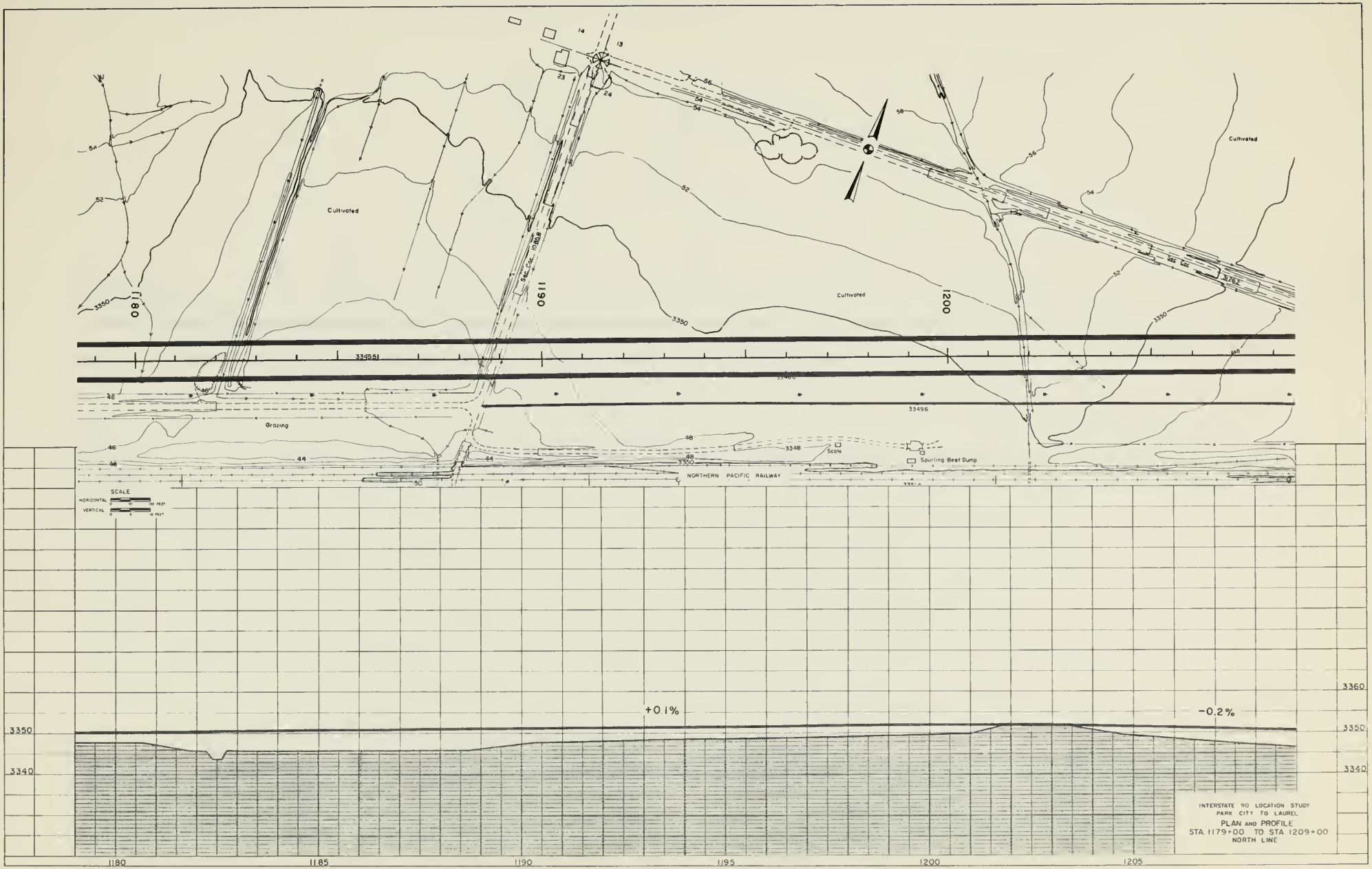
NORTH LINE



INTERSTATE 90 LOCATION STUDY
PARK CITY TO LAUREL
PLAN AND PROFILE
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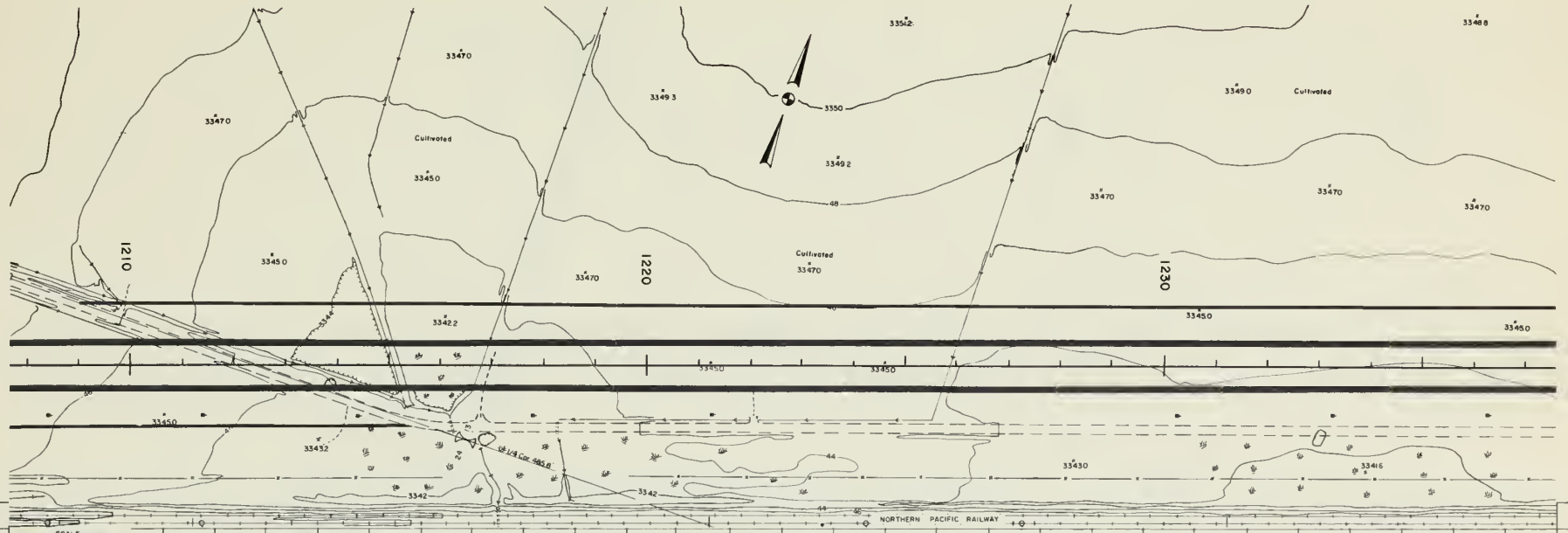
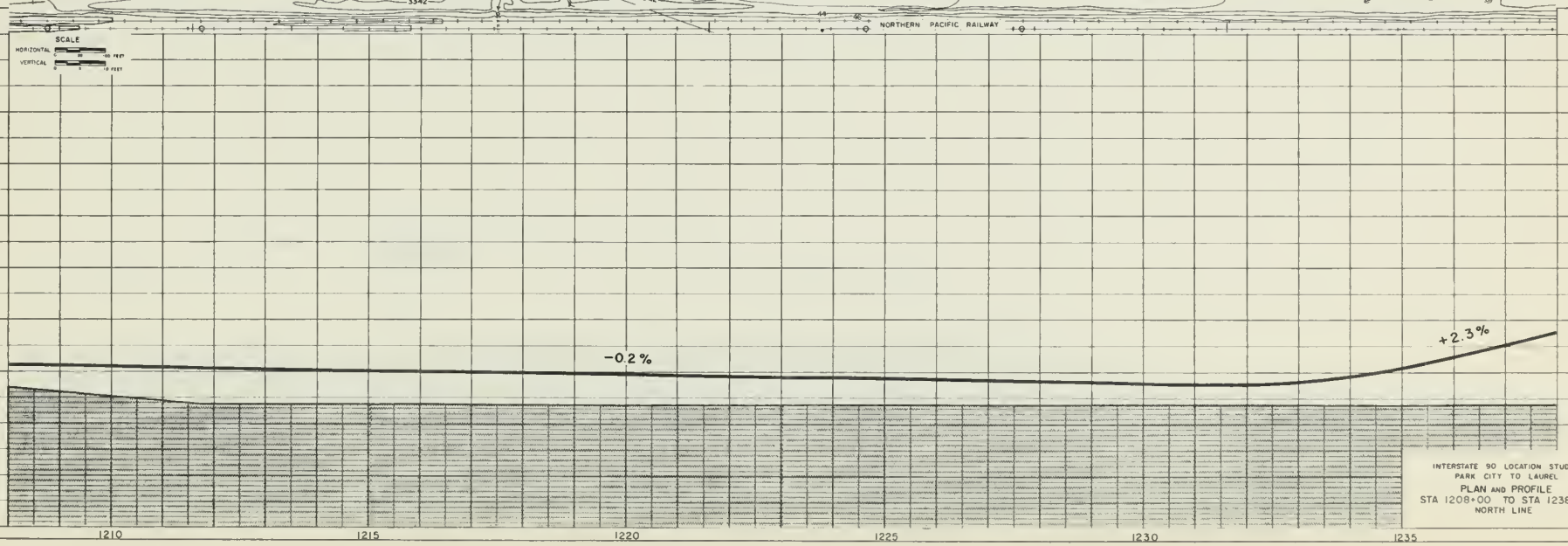
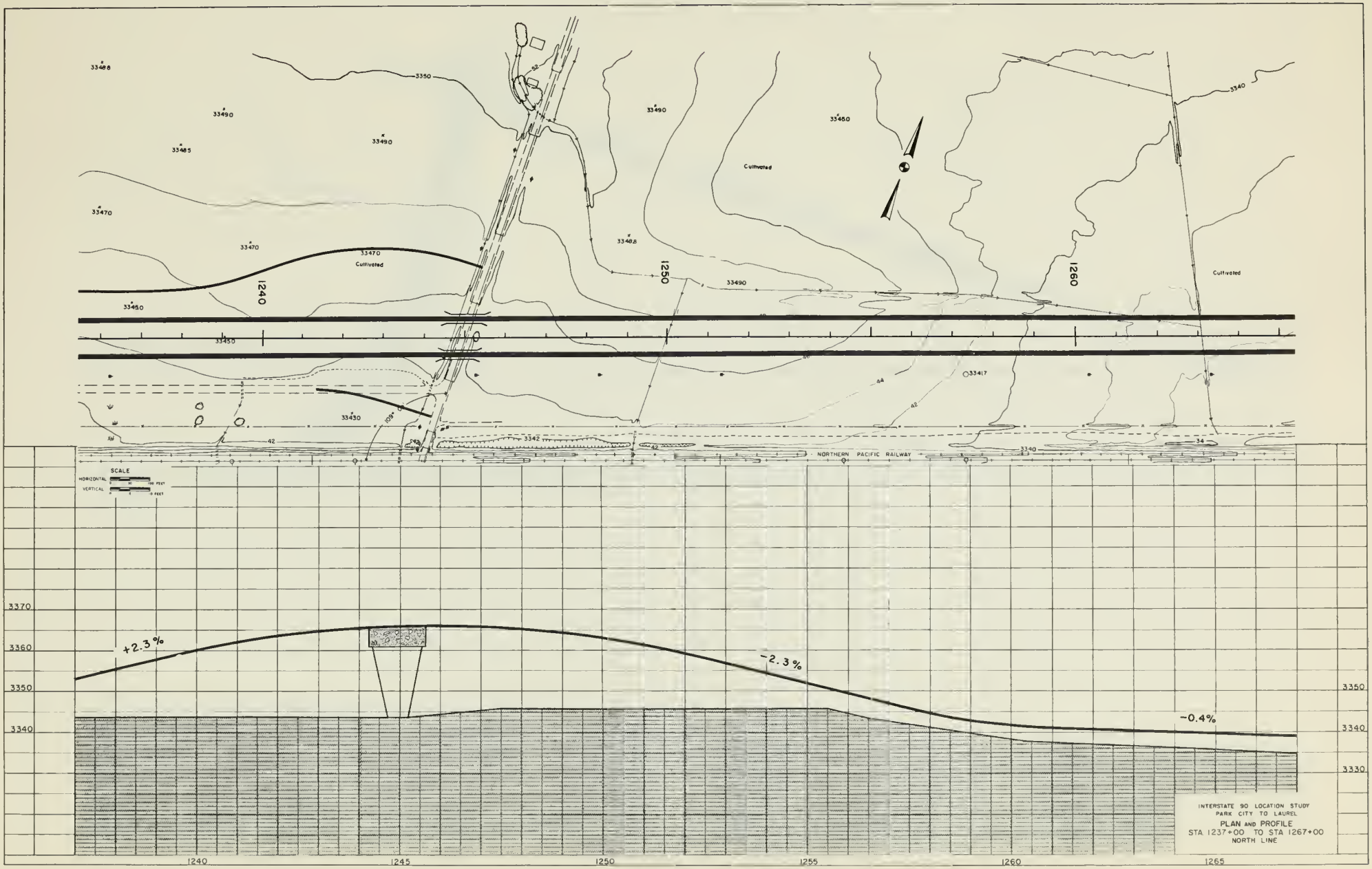
NORTH LINE





INTERSTATE 90 LOCATION STUDY
PARK CITY TO LAUREL
PLAN AND PROFILE
STA 1208+00 TO STA 1238+00
NORTH LINE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42
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NORTHERN PACIFIC RAILWAY
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SCALE
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VERTICAL
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-2.3%
-0.4%
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PARK CITY TO LAUREL
PLAN AND PROFILE
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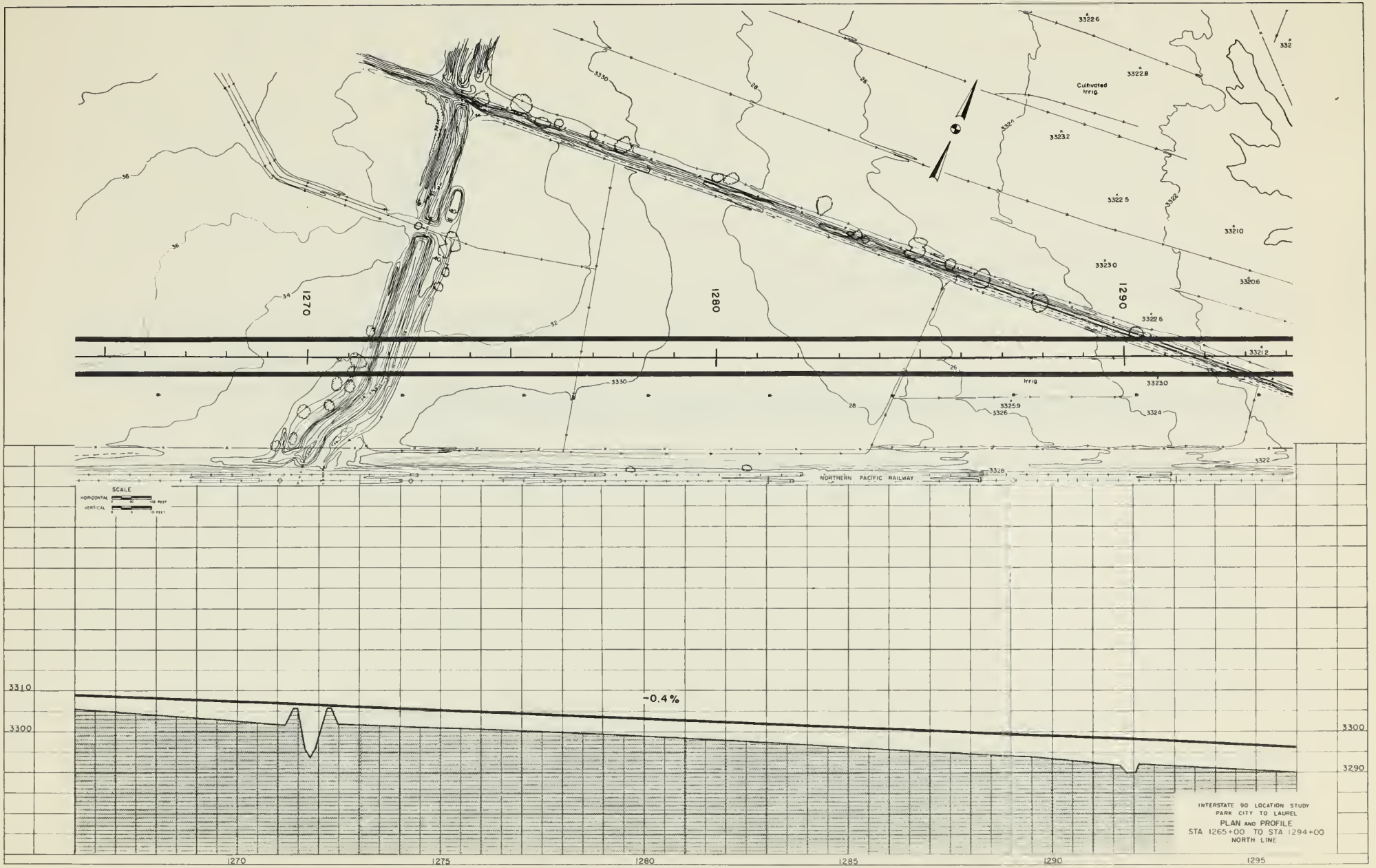
NORTH LINE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3290
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1275
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1290
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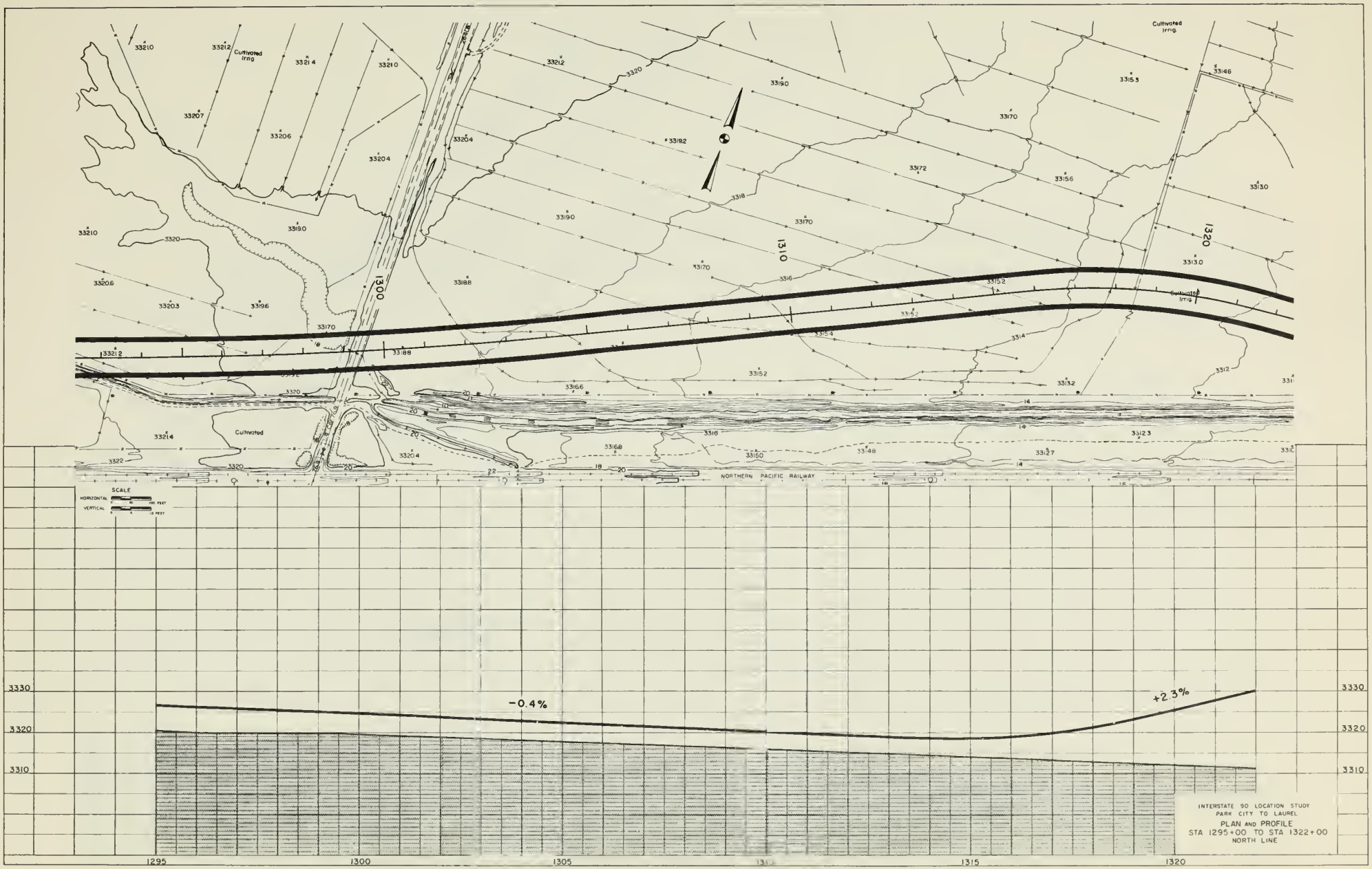
INTERSTATE 90 LOCATION STUDY
PARK CITY TO LAUREL
PLAN AND PROFILE
STA 1265+00 TO STA 1294+00
NORTH LINE


Cultivated Irrig
NORTHERN PACIFIC RAILWAY
SCALE
HORIZONTAL
VERTICAL
-0.4%
+2.3%
3330
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3310
1295
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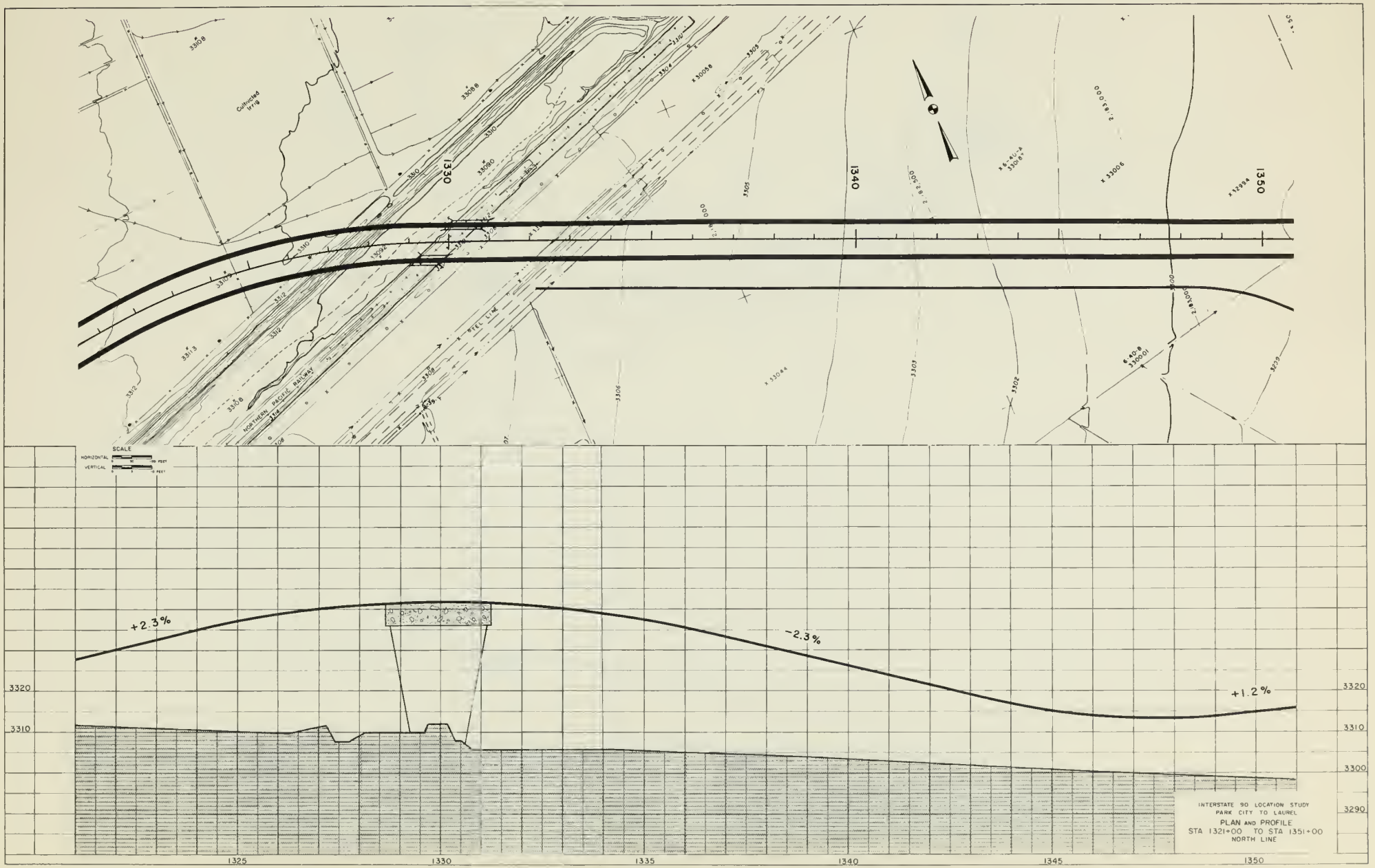
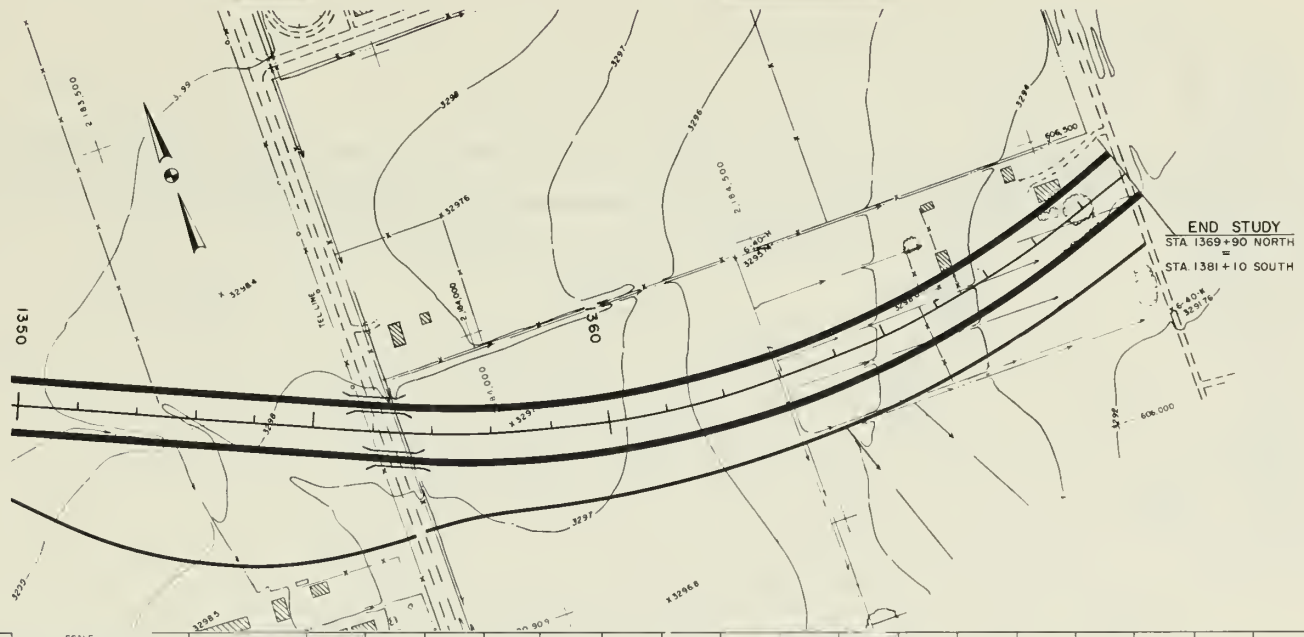
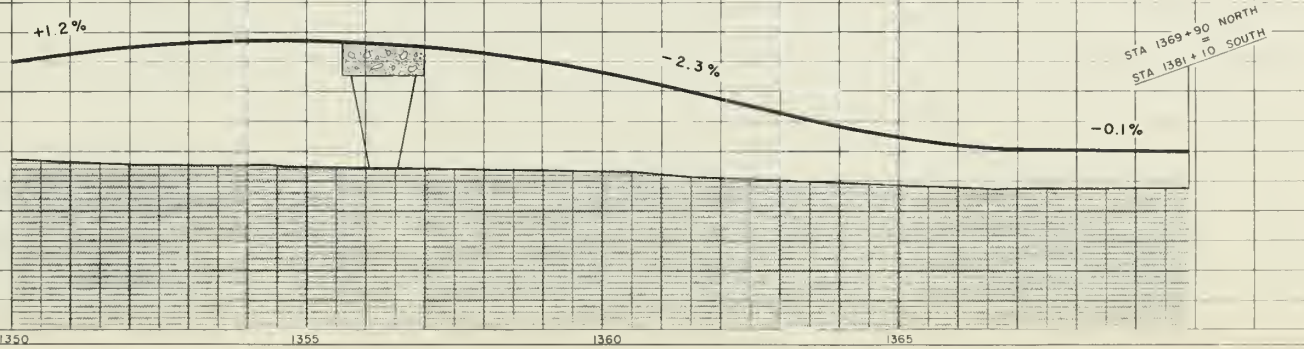
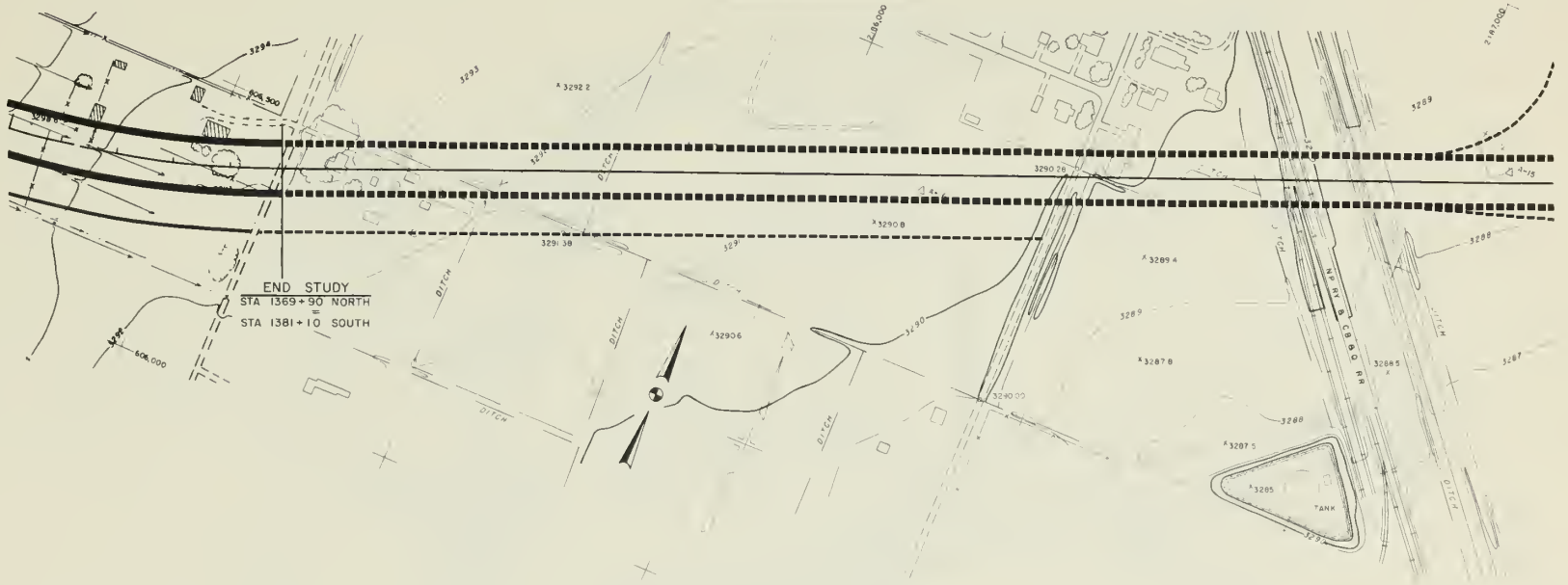
1305
1315
1320
INTERSTATE 90 LOCATION STUDY
PARK CITY TO LAUREL
PLAN AND PROFILE
STA 1295+00 TO STA 1322+00
NORTH LINE


SCALE
HORIZONTAL
VERTICAL
100 FEET
10 FEET
NORTHERN PACIFIC RAILWAY
STEL LINE
1330
1340
1350
+2.3%
-2.3%
+1.2%
3320
3310
3300
3290
1325
1330
1335
1340
1345
1350
INTERSTATE 90 LOCATION STUDY
PARK CITY TO LAUREL
PLAN AND PROFILE
STA 1321+00 TO STA 1351+00
NORTH LINE





INTERSTATE 90 LOCATION STUDY
PARK CITY TO LAUREL
PLAN AND PROFILE
STA 1350+00 TO STA 1369+90
NORTH LINE



SCALE
HORIZONTAL 100 FEET
VERTICAL 10 FEET

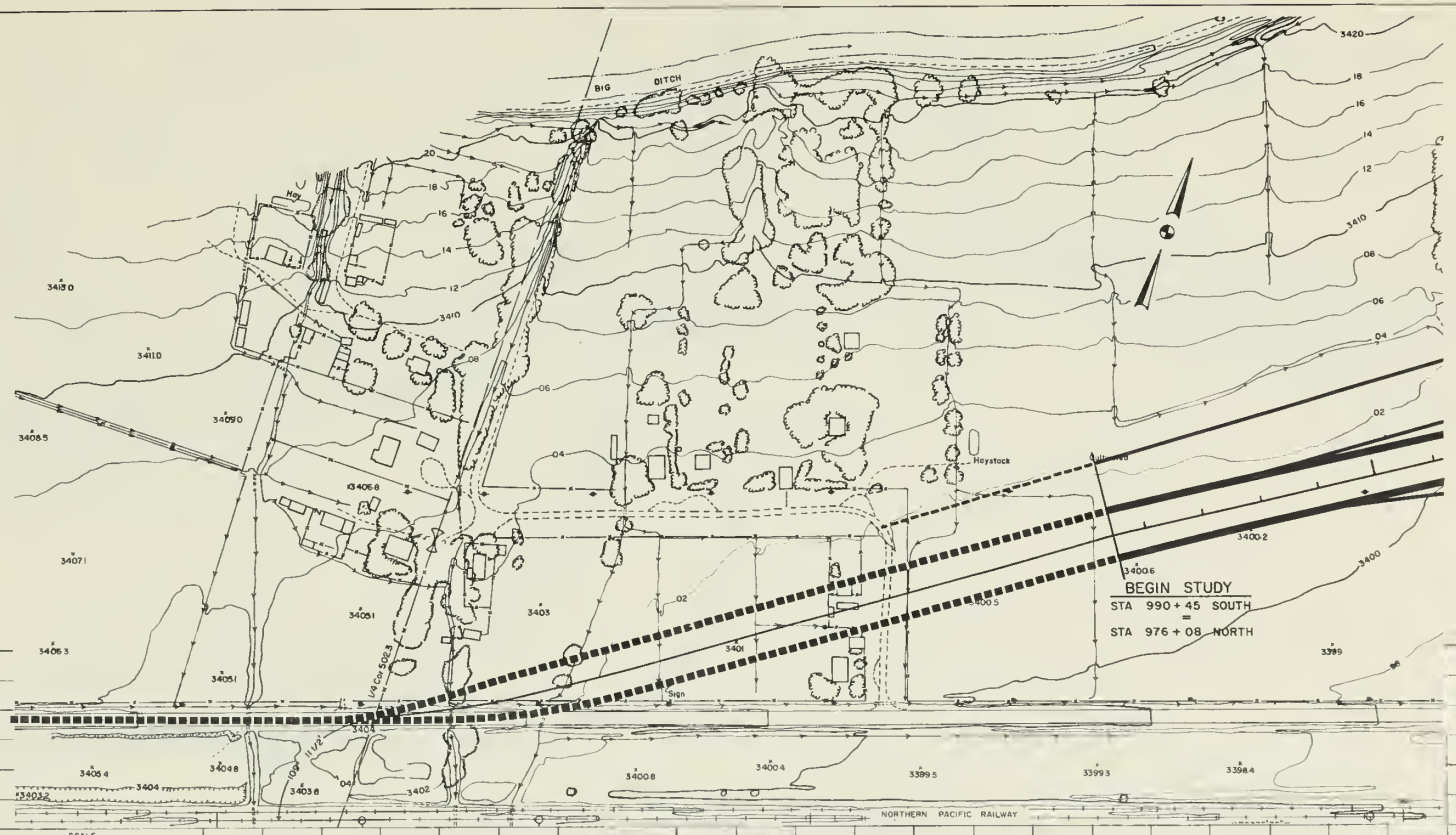
STA 1369+90 NORTH
=
STA 1381+10 SOUTH

3310
3300
3290

−2.3%
−0.1%

1365

INTERSTATE 90 LOCATION STUDY
PARK CITY TO LAUREL
PLAN AND PROFILE
STA 1365+00 TO STA 1369+90
NORTH LINE



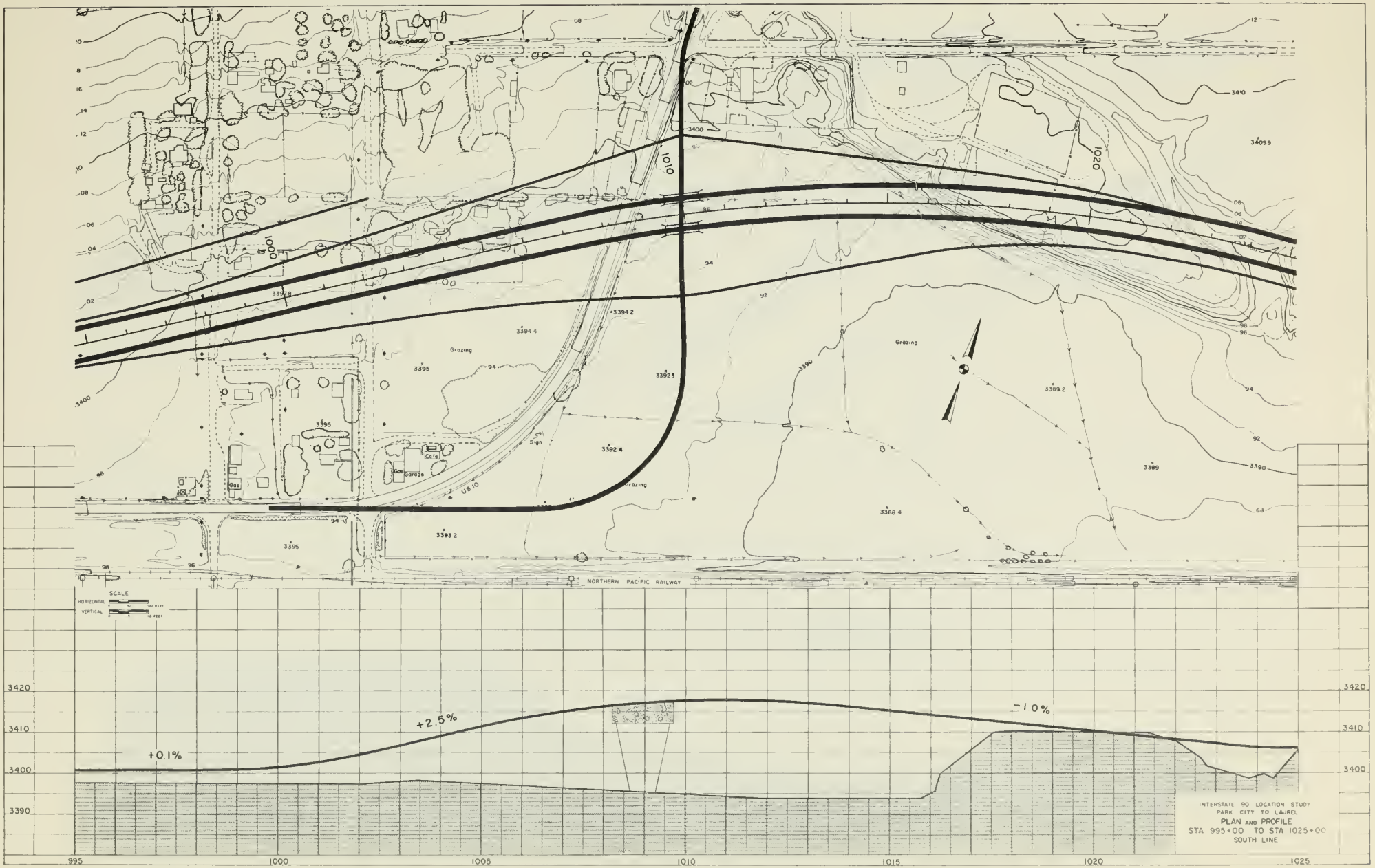
STA. 990+45 SOUTH
=
STA 976+08 NORTH

+0.1%

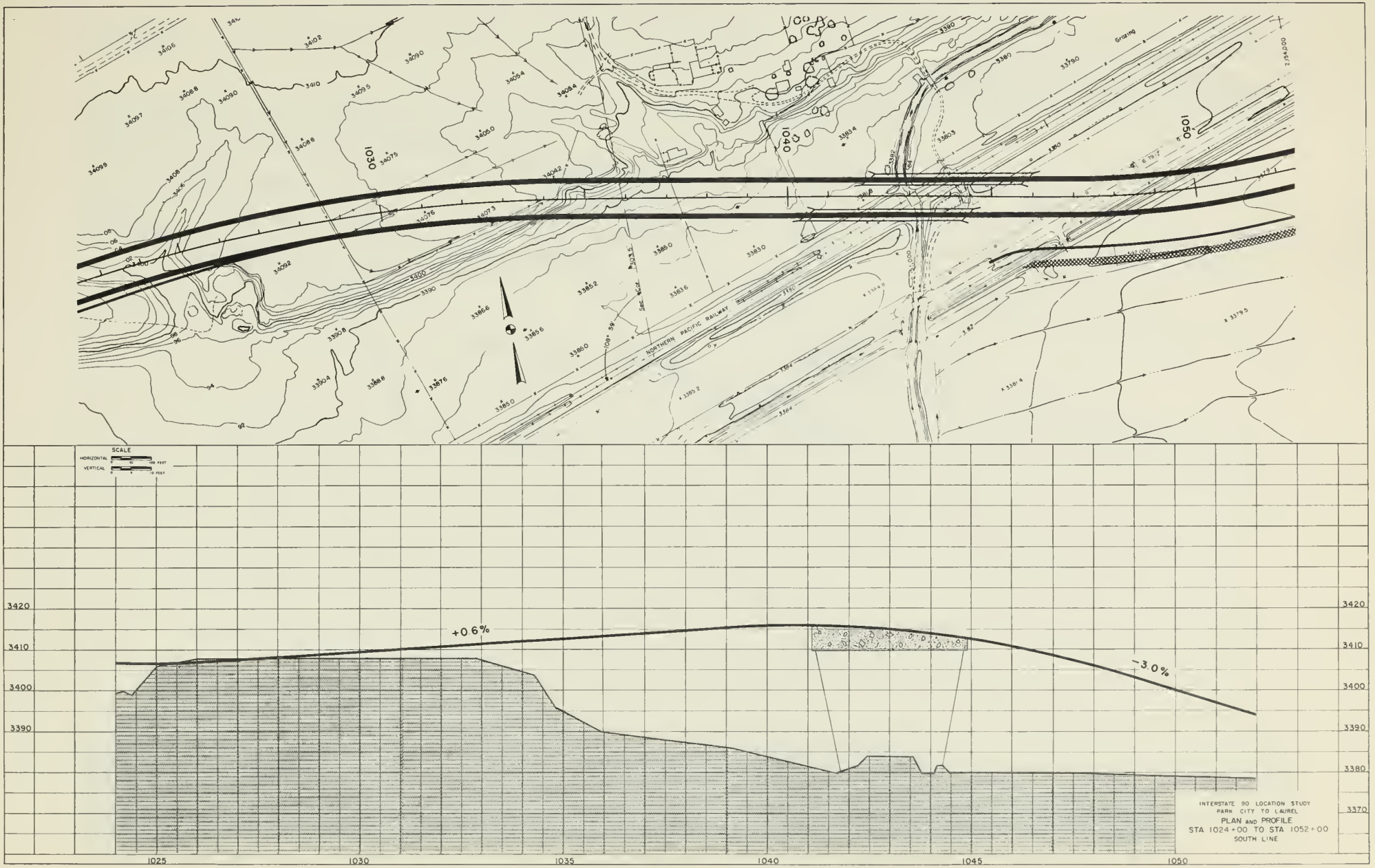
3410

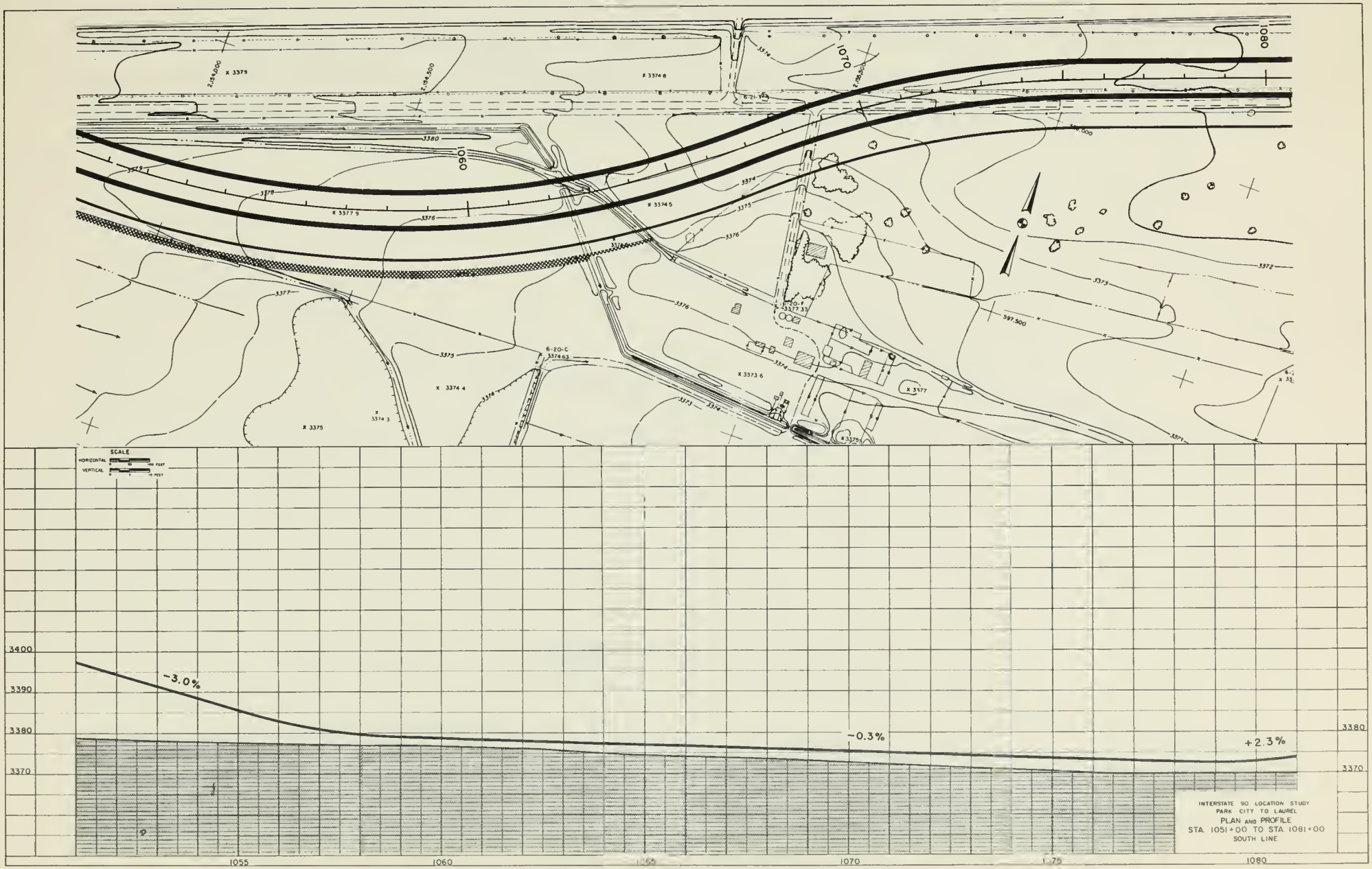
3400

INTERSTATE 90 LOCATION STUDY
PARK CITY TO LAUREL
PLAN AND PROFILE
STA 990+45 TO STA 996+00
SOUTH LINE

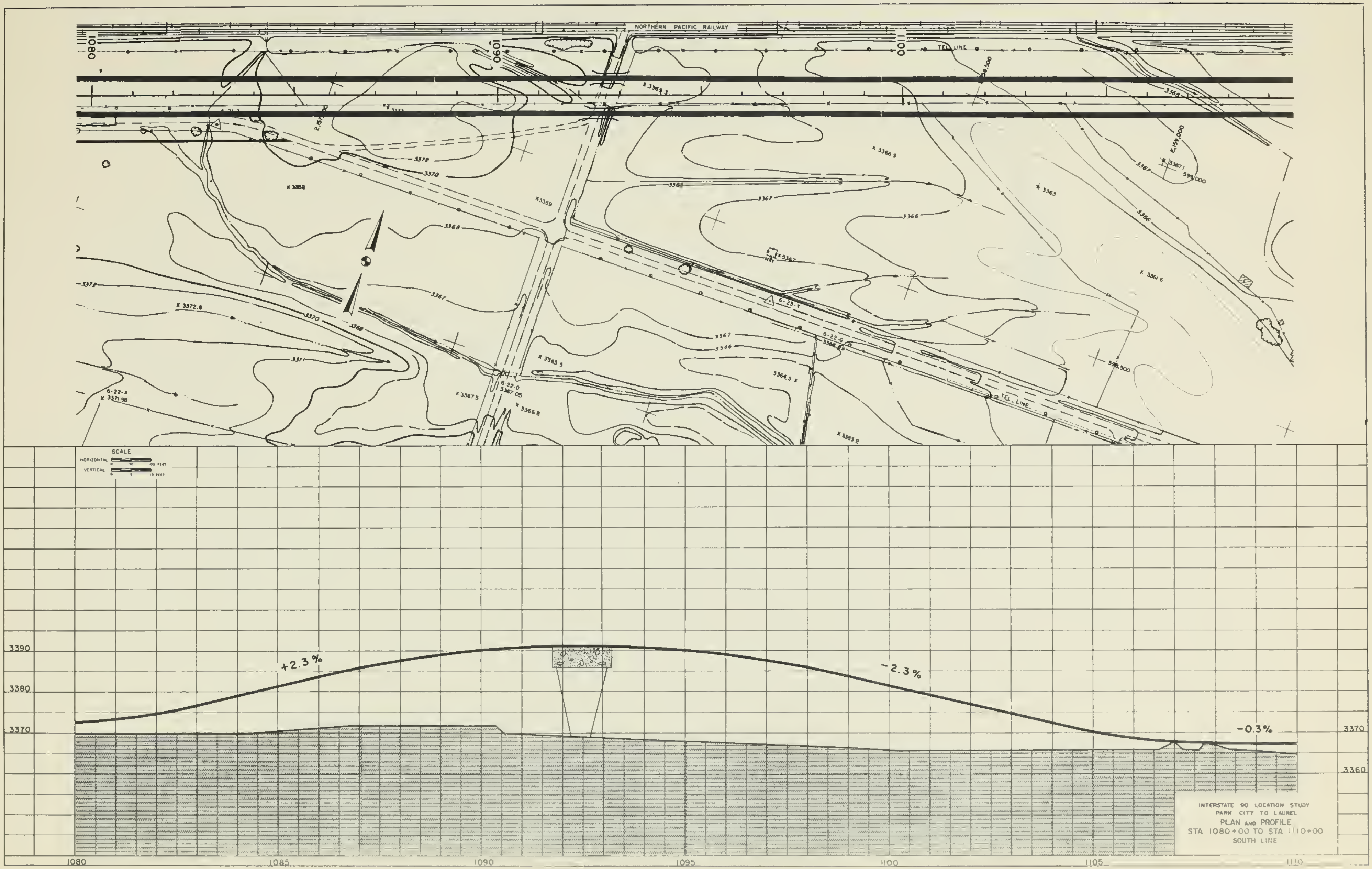


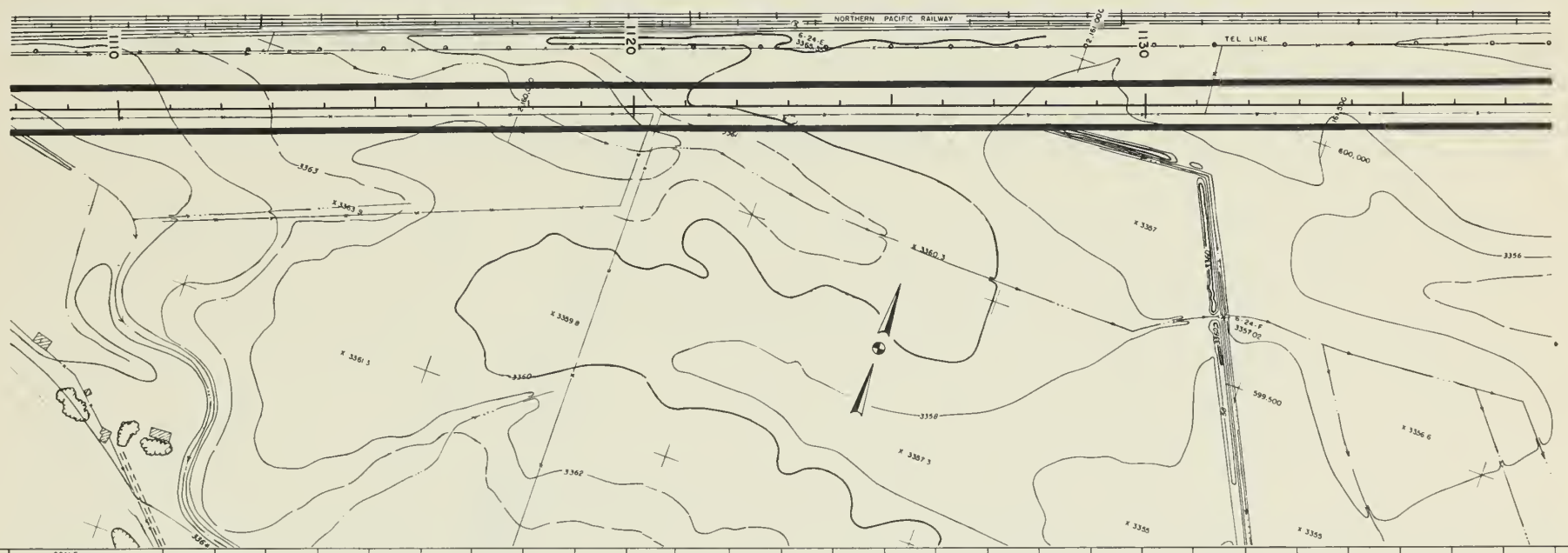
INTERSTATE 90 LOCATION STUDY
PARK CITY TO LAUREL
PLAN AND PROFILE
STA 995+00 TO STA 1025+00
SOUTH LINE

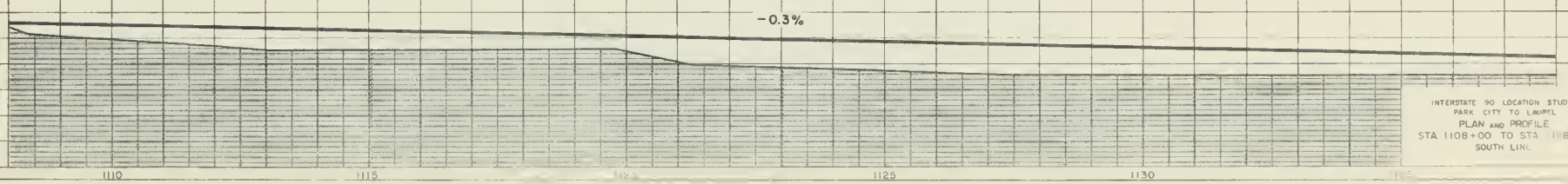

SCALE
HORIZONTAL
VERTICAL
100 FEET
10 FEET
NORTHERN PACIFIC RAILWAY
Grazing
1030
1040
1050
+0.6%
-3.0%
3420
3410
3400
3390
3380
3370
1025
1030
1035
1040
1045
1050
INTERSTATE 90 LOCATION STUDY
PARK CITY TO LAUREL
PLAN AND PROFILE
STA 1024+00 TO STA 1052+00
SOUTH LINE



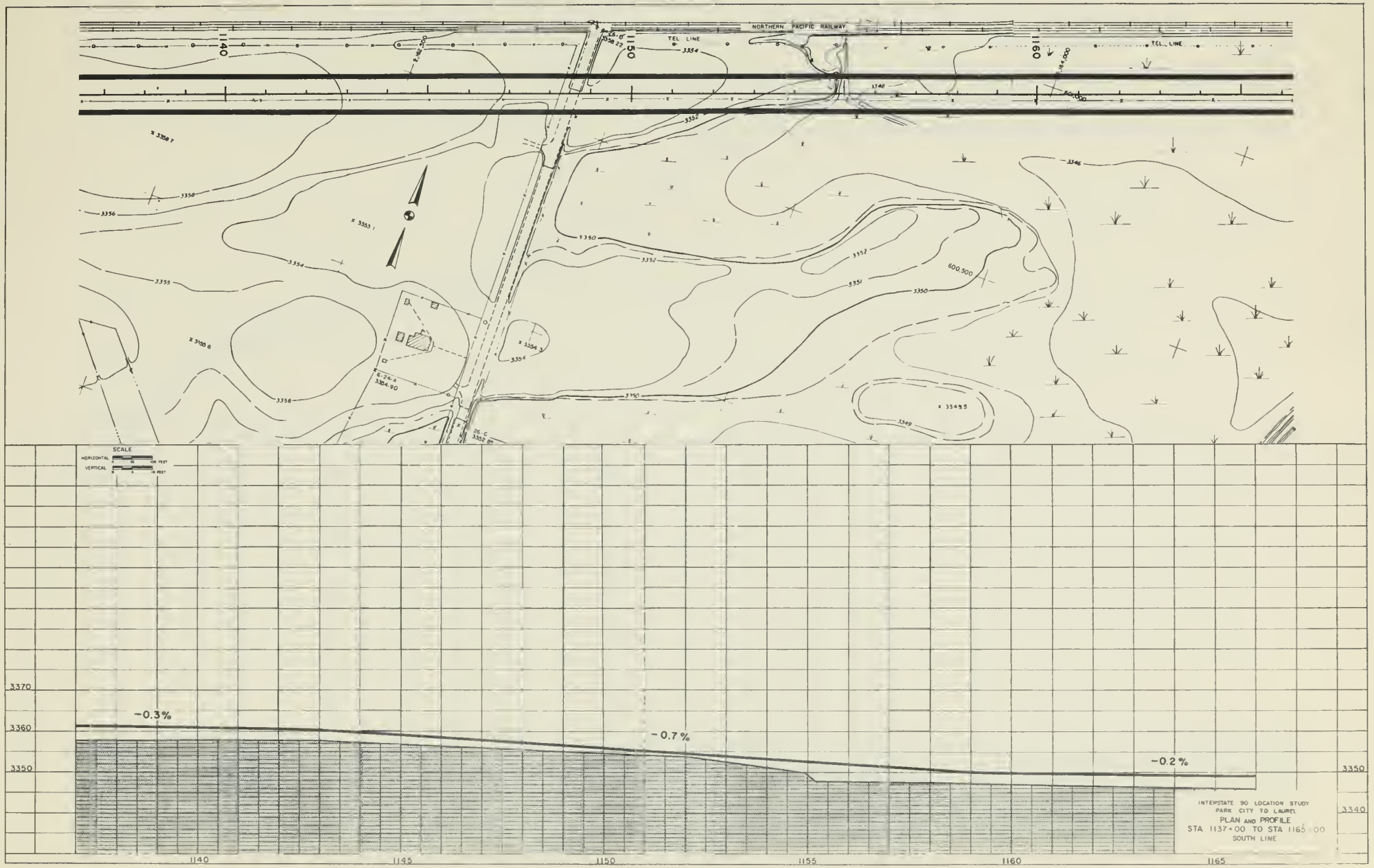
INTERSTATE 90 LOCATION STUDY
PARK CITY TO LAUREL
PLAN AND PROFILE
STA. 1051+00 TO STA 1081+00
SOUTH LINE

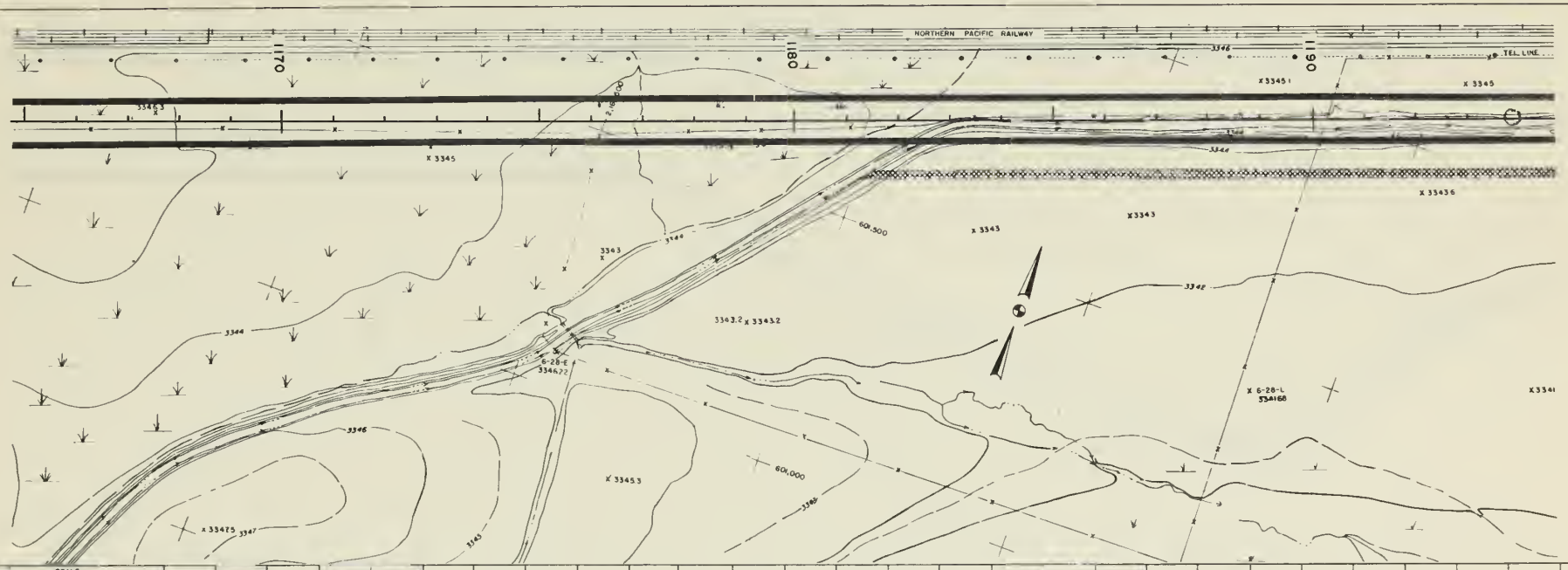

NORTHERN PACIFIC RAILWAY
TEL. LINE
1080
1090
1100
SCALE
HORIZONTAL
VERTICAL
+2.3 %
-2.3 %
-0.3%
3390
3380
3370
3360
1085
1095
1105
1110
INTERSTATE 90 LOCATION STUDY
PARK CITY TO LAUREL
PLAN AND PROFILE
STA 1080+00 TO STA 1110+00
SOUTH LINE





INTERSTATE 90 LOCATION STUDY
PARK CITY TO LAUREL
PLAN AND PROFILE
STA 1108+00 TO STA 1186+00
SOUTH LINE

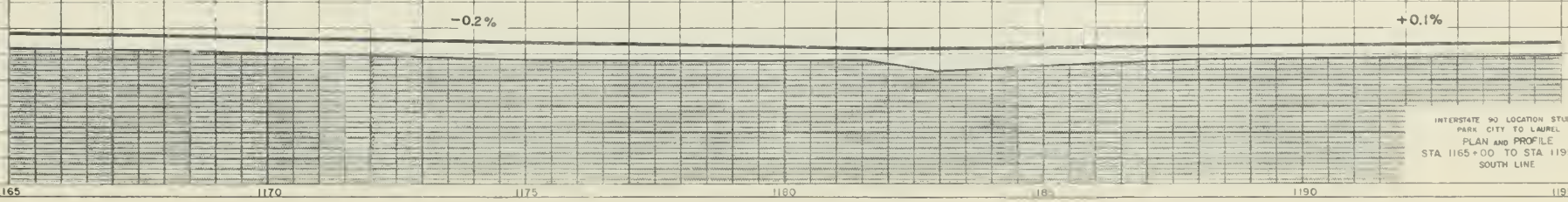

NORTHERN PACIFIC RAILWAY
TEL. LINE
1140
1150
1160
3354
3352
3350
3348
3346
3356
3355
600.300
SCALE
HORIZONTAL
VERTICAL
-0.3%
-0.7%
-0.2%
3370
3360
3350
3340
1140
1145
1150
1155
1160
1165
INTERSTATE 90 LOCATION STUDY
PARK CITY TO LAUREL
PLAN AND PROFILE
STA 1137+00 TO STA 1165+00
SOUTH LINE



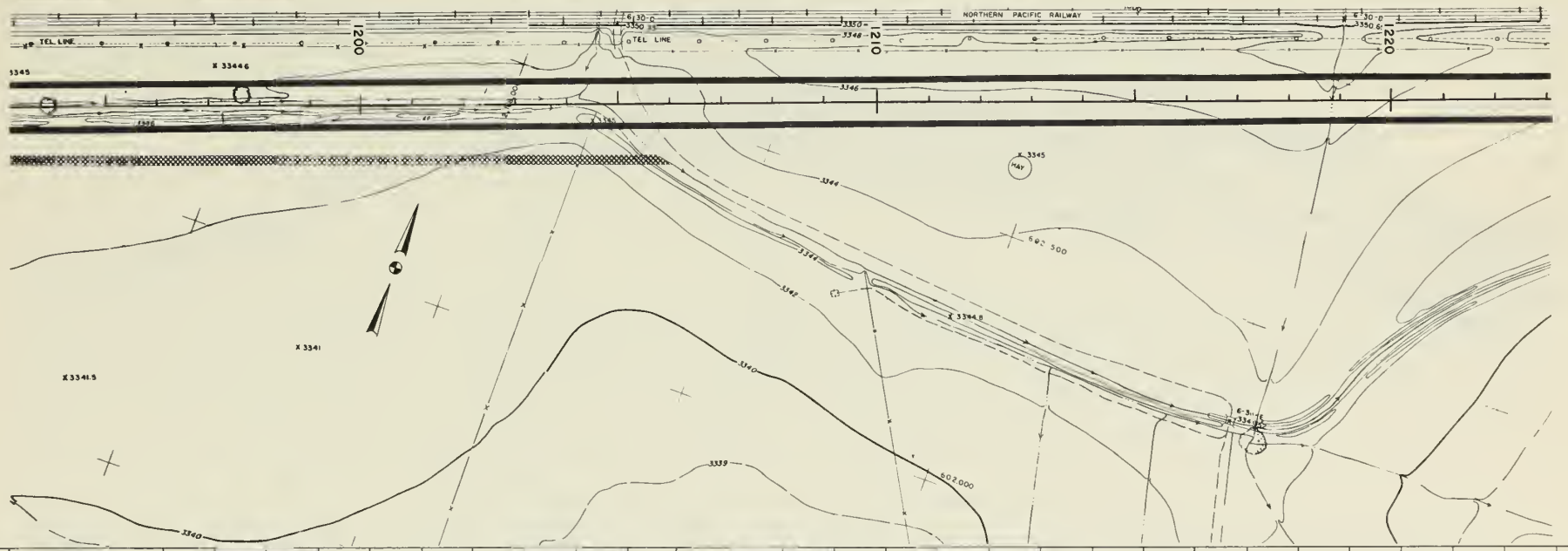
SCALE

HORIZONTAL 100 FEET

VERTICAL 10 FEET



INTERSTATE 90 LOCATION STUDY
PARK CITY TO LAUREL
PLAN AND PROFILE
STA 1165+00 TO STA 1195+00
SOUTH LINE



SCALE
HORIZONTAL 0 100 200 FEET
VERTICAL 0 5 10 FEET

+0.1%

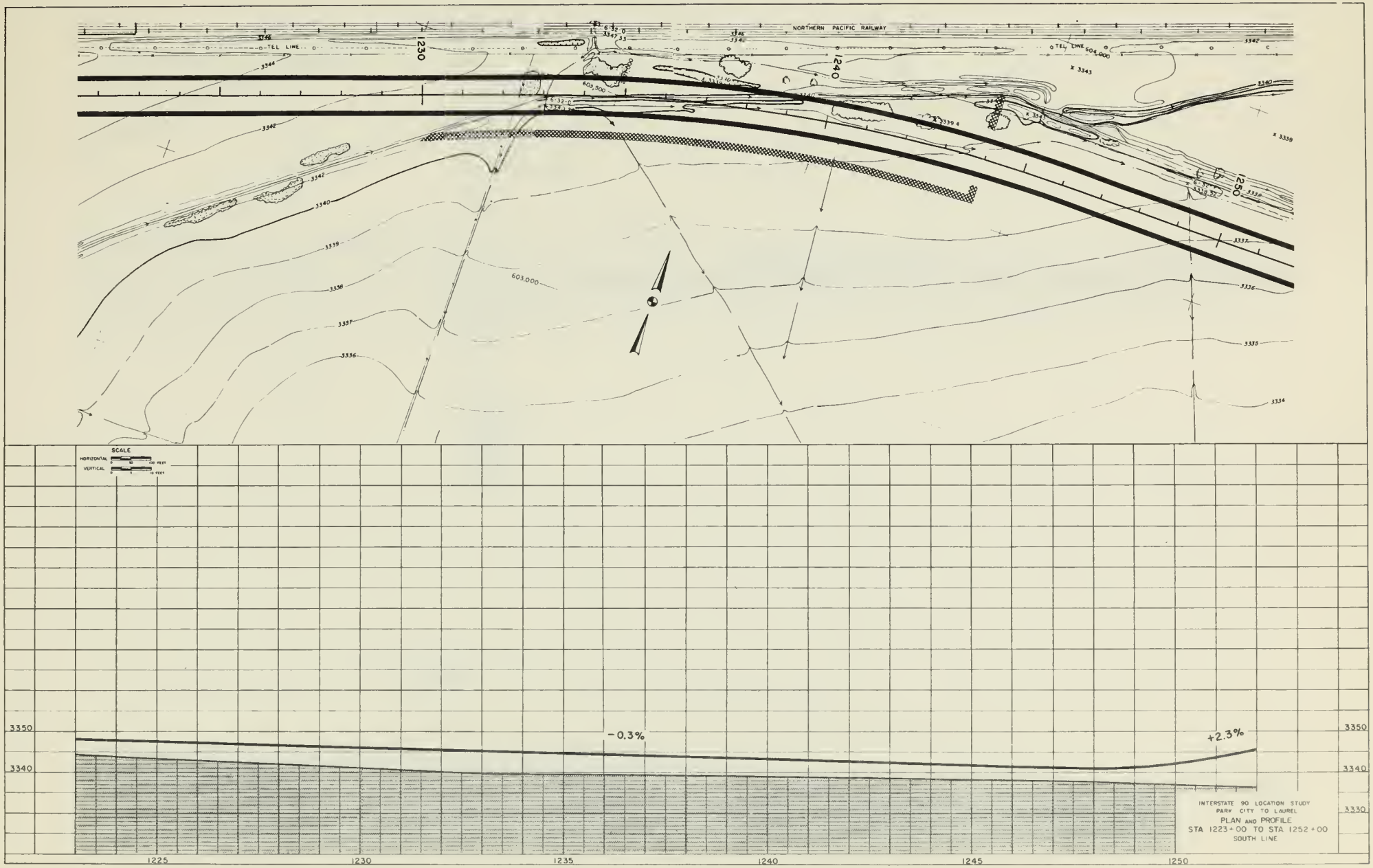
-0.3%

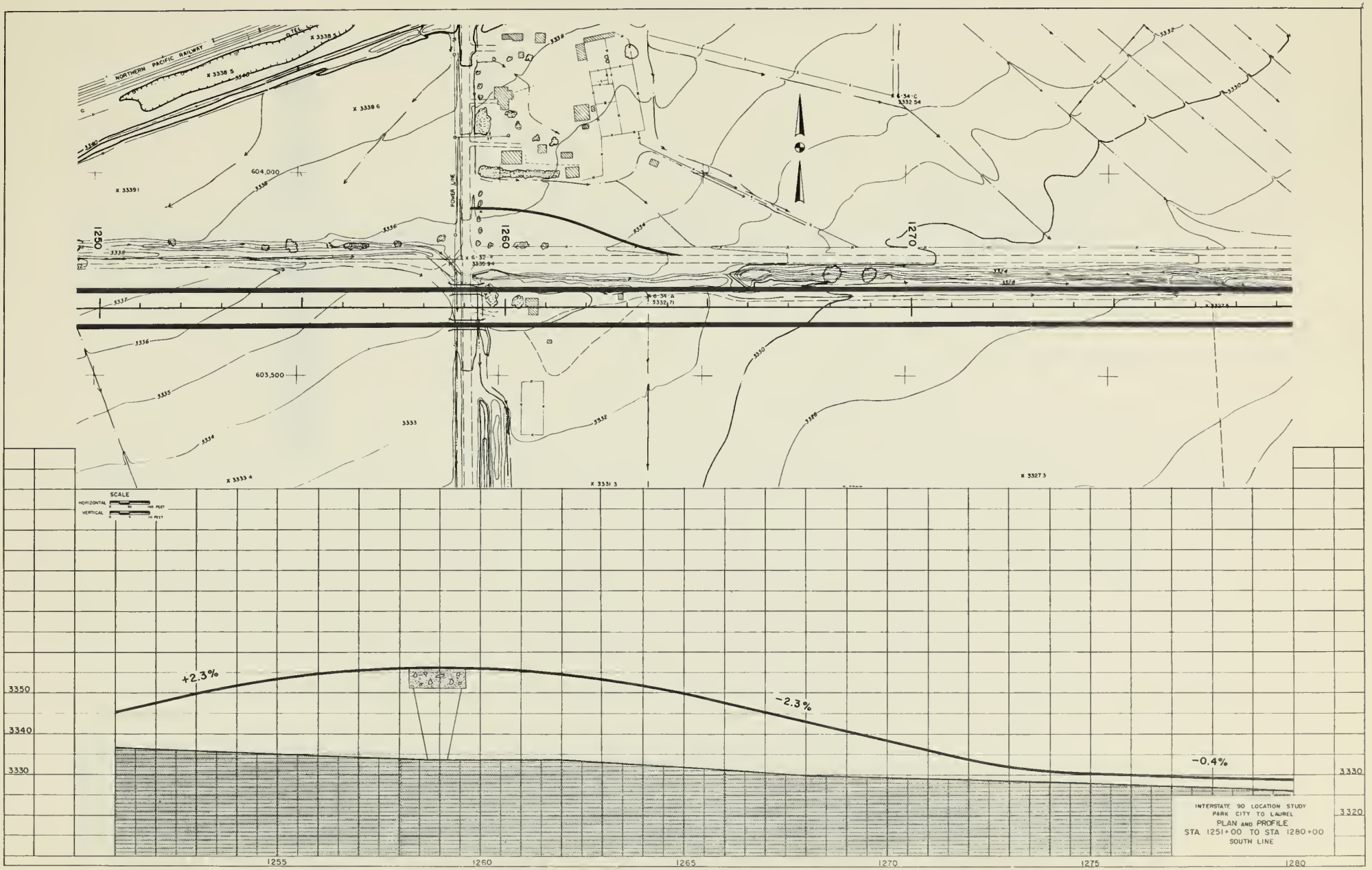
3350

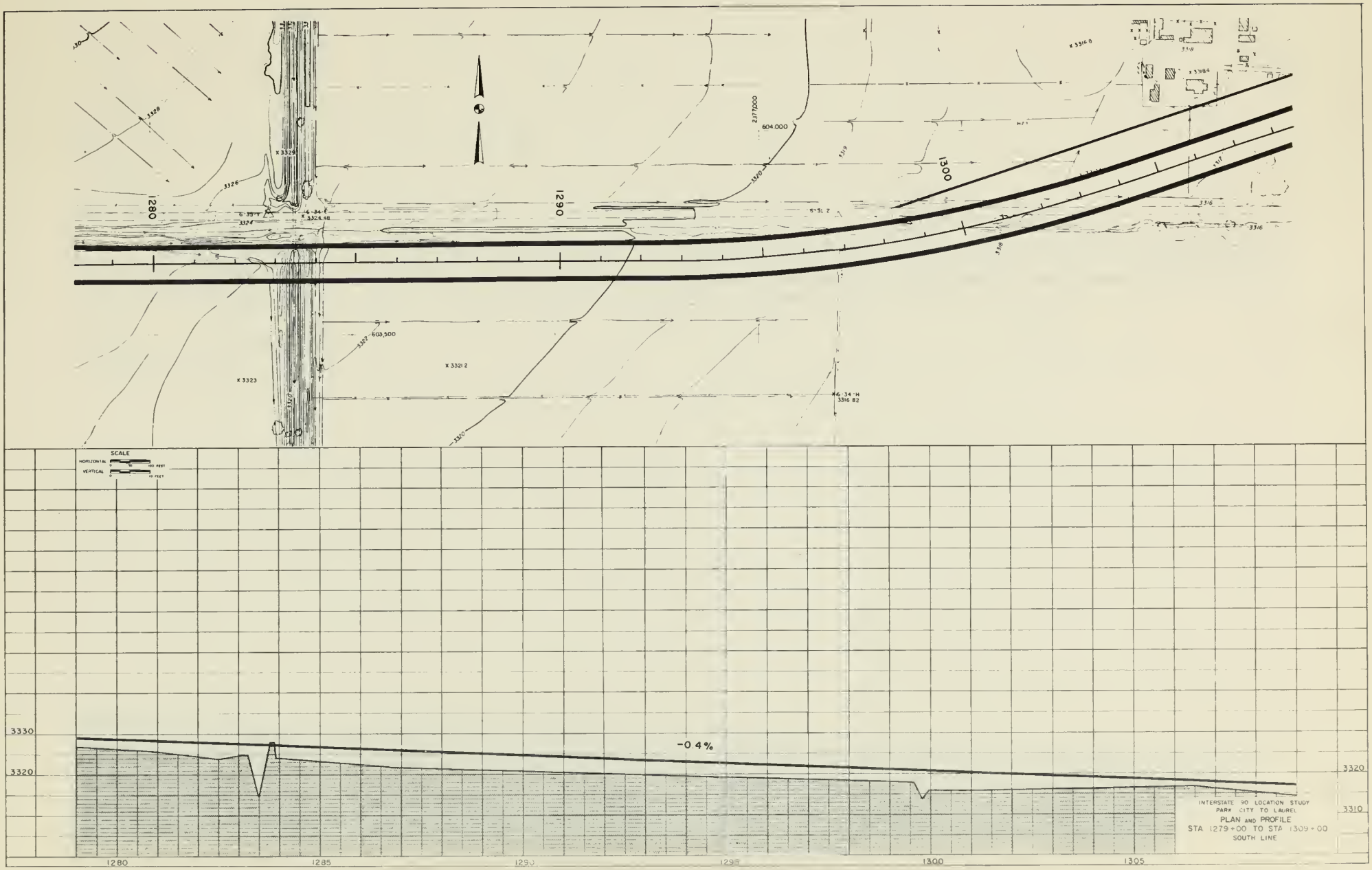
3340

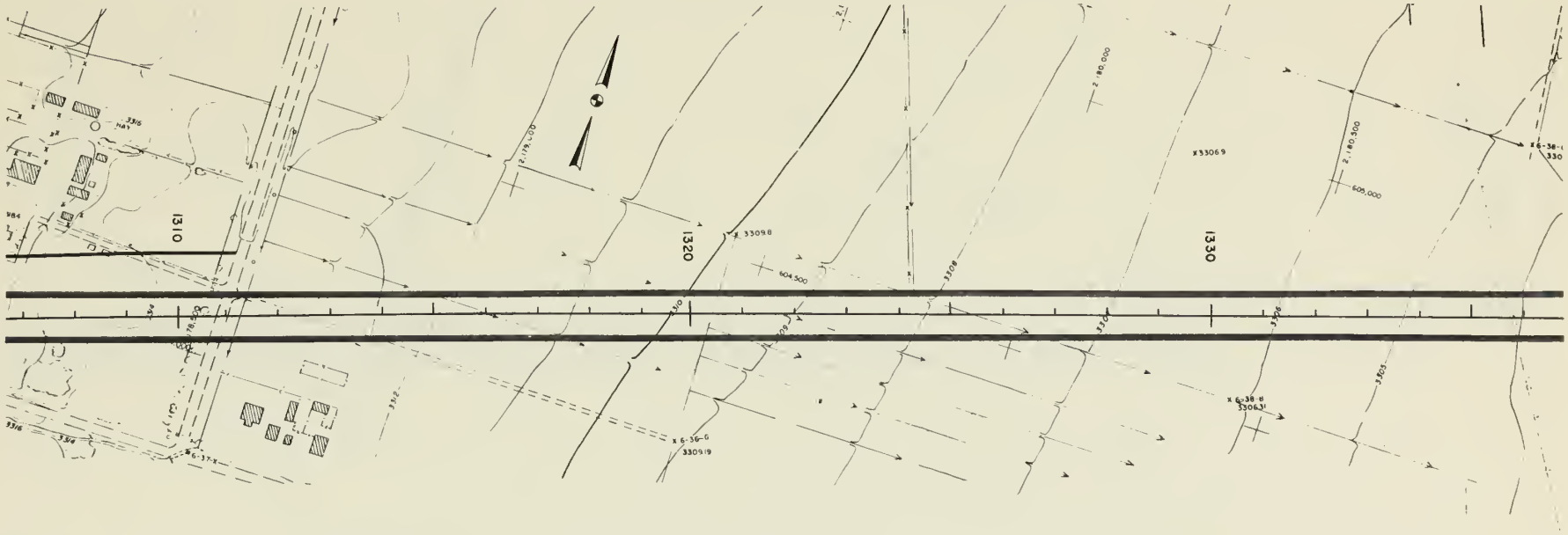
1195 1200 1205 1210 1215 1220

INTERSTATE 90 LOCATION STUDY
PARK CITY TO LAUREL
PLAN AND PROFILE
STA. 1194+00 TO STA 1224+00
SOUTH LINE


NORTHERN PACIFIC RAILWAY
TEL LINE
1230
1240
1250
603,000
604,000
603,500
3345
3344
3343
3342
3341
3340
3339
3338
3337
3336
3335
3334
SCALE
HORIZONTAL
VERTICAL
-0.3%
+2.3%
3350
3340
3330
1225
1230
1235
1240
1245
1250
INTERSTATE 90 LOCATION STUDY
PARK CITY TO LAUREL
PLAN AND PROFILE
STA 1223+00 TO STA 1252+00
SOUTH LINE


NORTHERN PACIFIC RAILWAY
POWER LINE
1250
1260
1270
604,000
603,500
SCALE
HORIZONTAL
VERTICAL
+2.3%
-2.3%
-0.4%
3350
3340
3330
3320
1255
1260
1265
1270
1275
1280
INTERSTATE 90 LOCATION STUDY
PARK CITY TO LAUREL
PLAN AND PROFILE
STA 1251+00 TO STA 1280+00
SOUTH LINE


SCALE
HORIZONTAL
VERTICAL
1280
1290
1300
2177200
604.000
-603,500
x 3329
x 3324.48
x 3321.2
x 3323
x 3316.8
3330
3320
3310
-0.4%
1280
1285
1290
1295
1300
1305
INTERSTATE 90 LOCATION STUDY
PARK CITY TO LAUREL
PLAN AND PROFILE
STA 1279+00 TO STA 1309+00
SOUTH LINE



SCALE
HORIZONTAL 0 50 100 FEET
VERTICAL 0 5 10 FEET

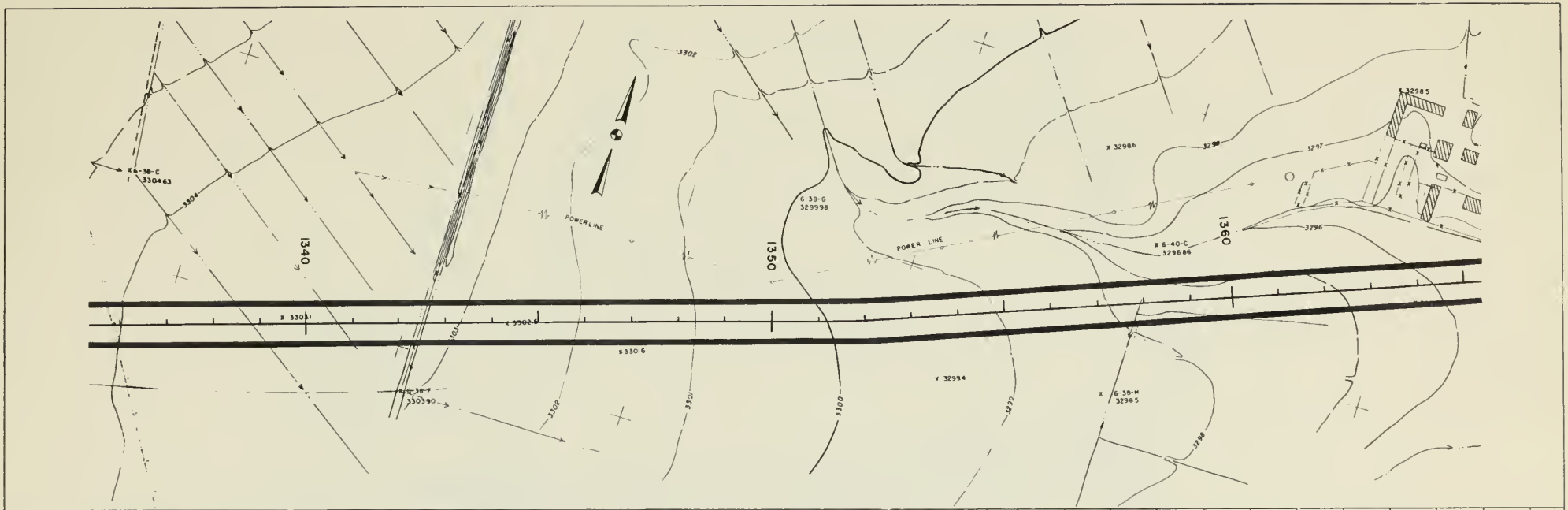
3320
3310
3300

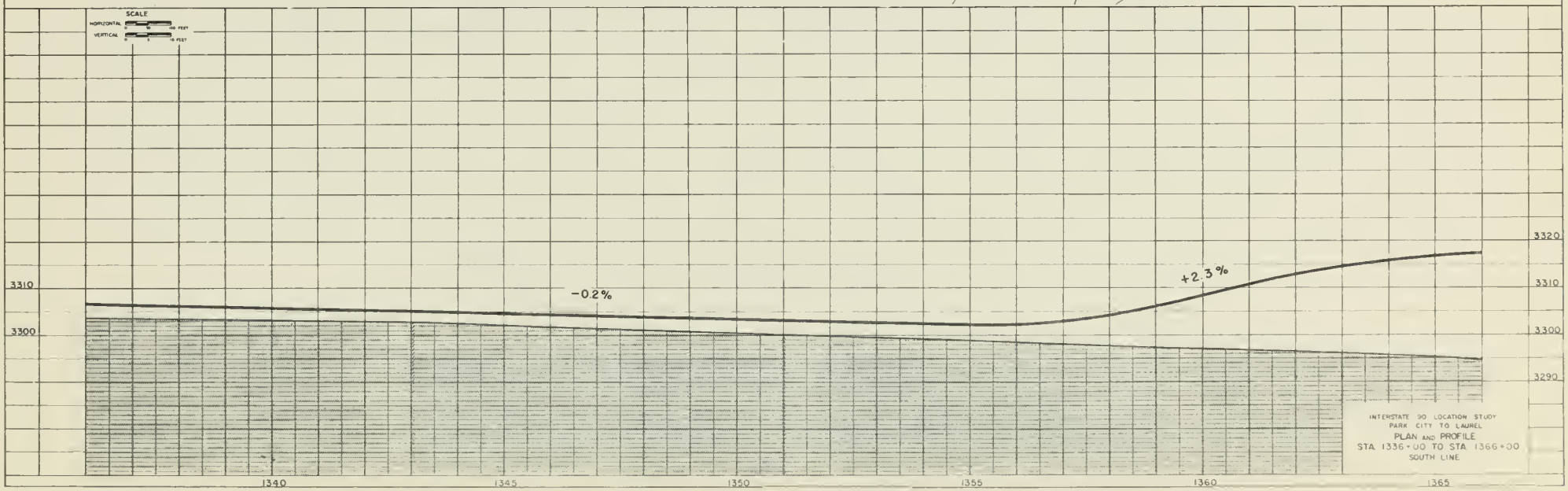
-0.4%

-0.2%

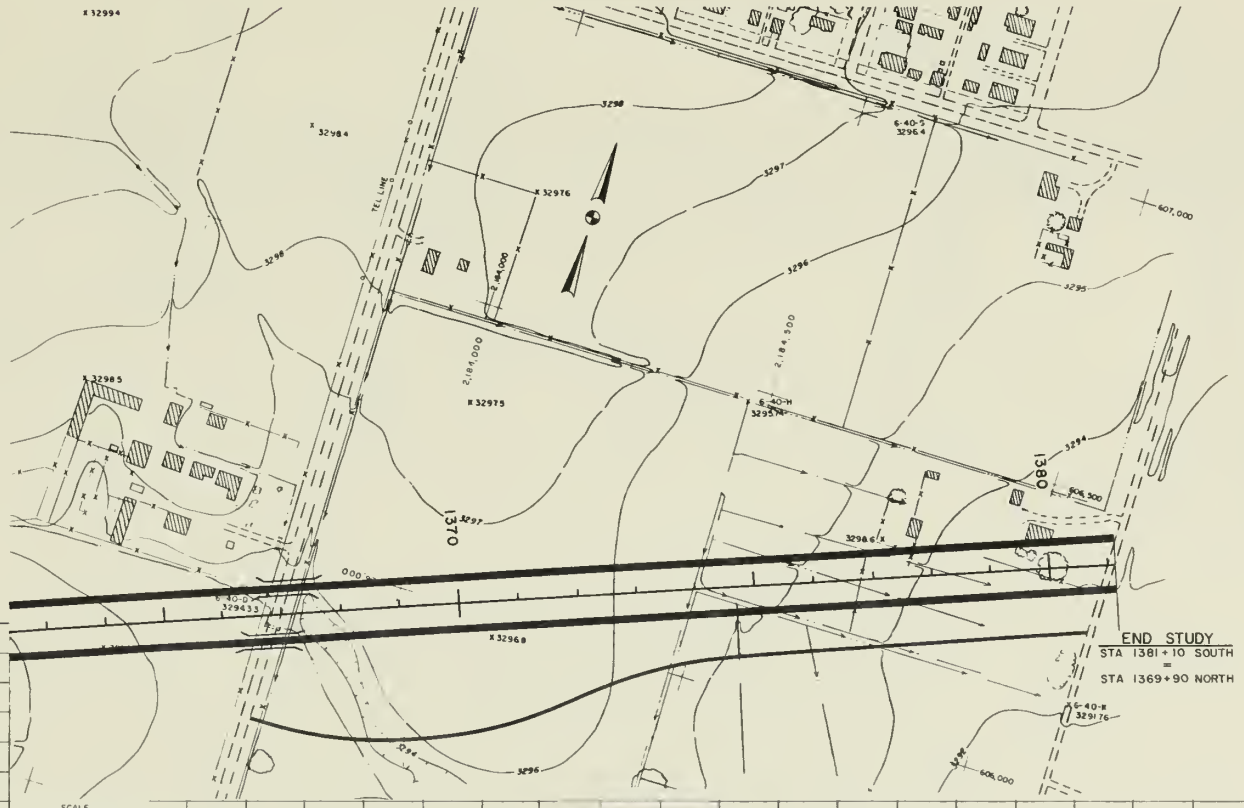
1310 1315 1320 1325 1330 1335

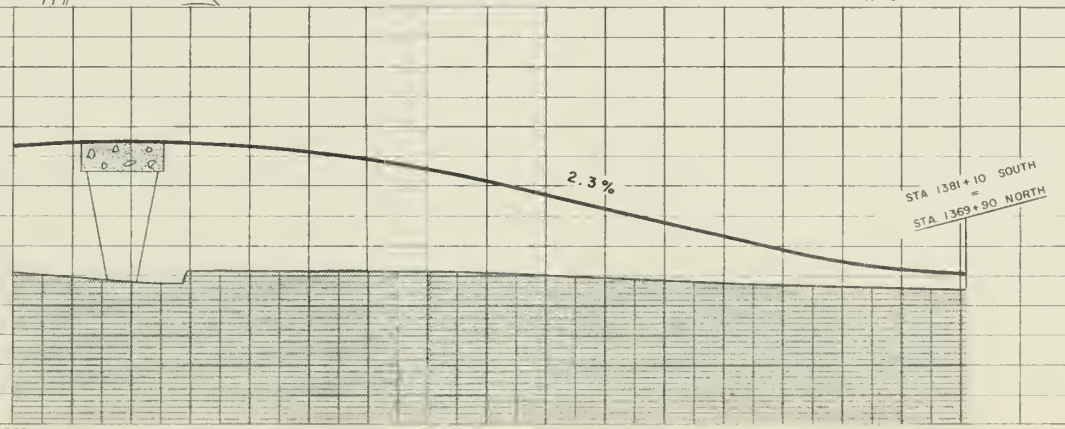
INTERSTATE 90 LOCATION STUDY
PARK CITY TO LAUREL
PLAN AND PROFILE
STA 1308+00 TO STA 1337+00
SOUTH LINE



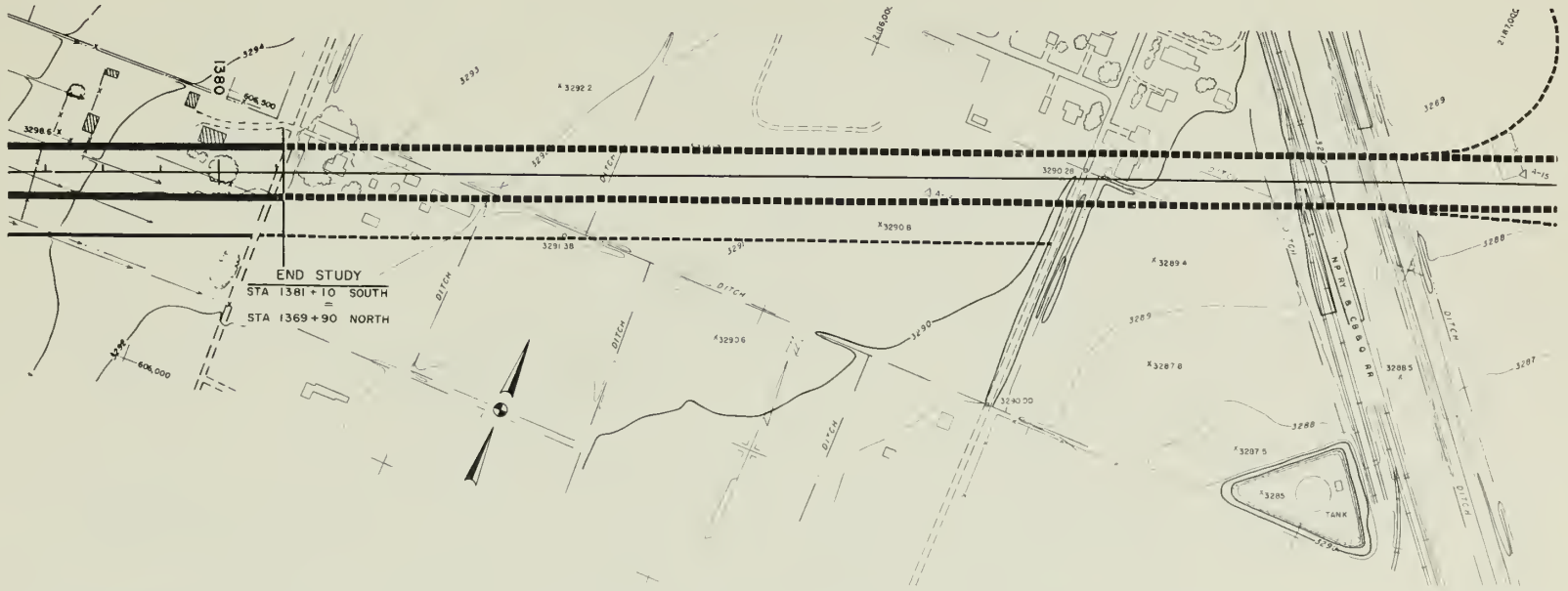


INTERSTATE 90 LOCATION STUDY
PARK CITY TO LAUREL
PLAN AND PROFILE
STA 1336+00 TO STA 1366+00
SOUTH LINE

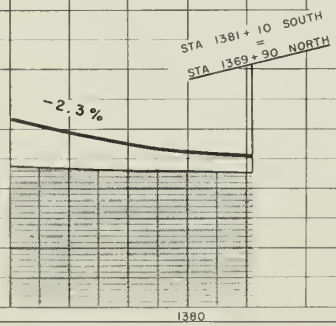




INTERSTATE 90 LOCATION STUDY
PARK CITY TO LAUREL
PLAN AND PROFILE
STA 1365+00 TO STA 1381+10
SOUTH LINE



SCALE
HORIZONTAL
VERTICAL



INTERSTATE 90 LOCATION STUDY
PARK CITY TO LAUREL
PLAN AND PROFILE
STA 1377+00 TO STA 1381+10
SOUTH LINE